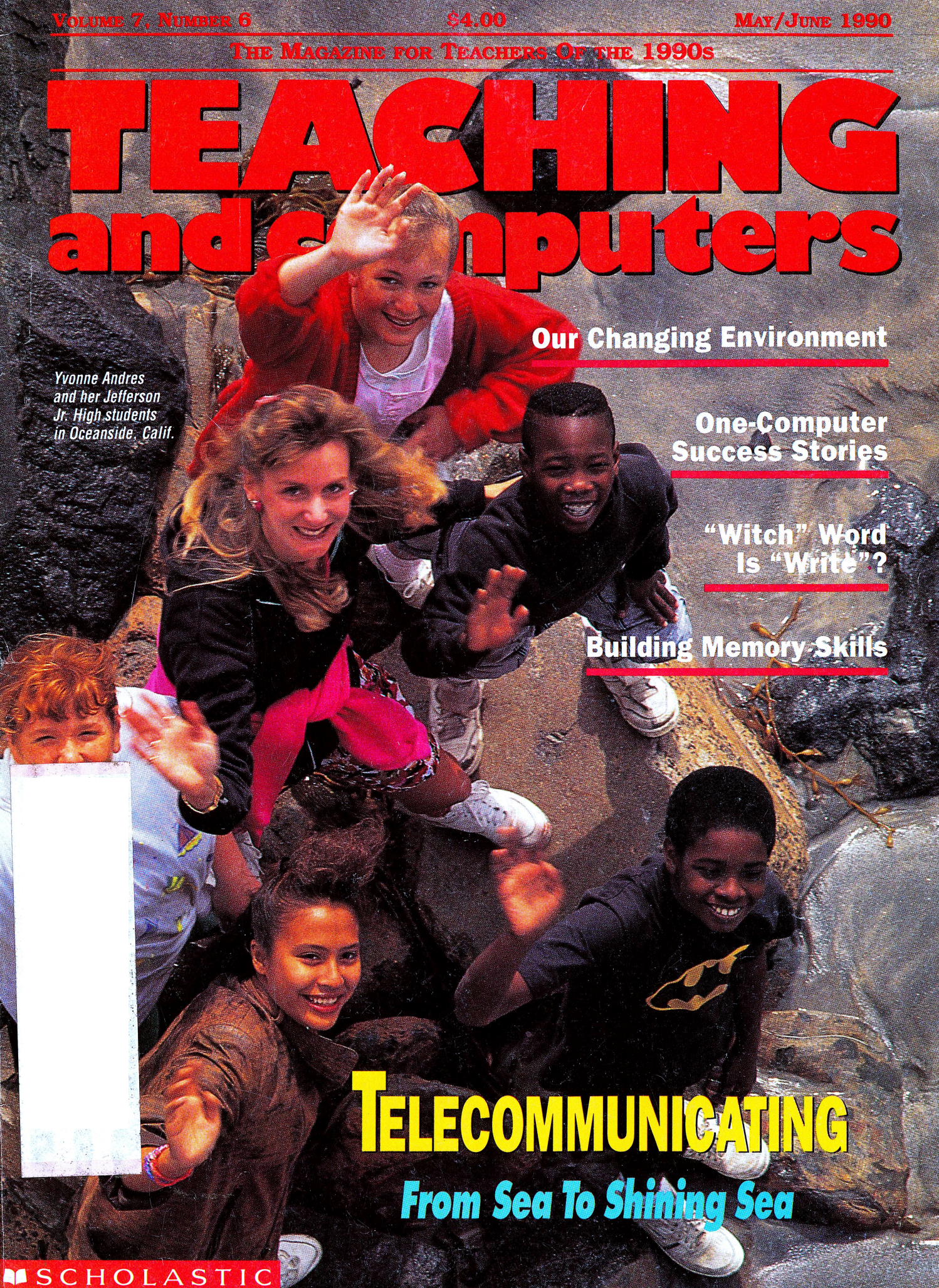
VOLUME 7, NUMBER 6 $4.00 MAY/JUNE 1990

THE MAGAZINE FOR TEACHERS OF THE 1990s

TEACHING and computers



Yvonne Andres and her Jefferson Jr. High students in Oceanside, Calif.

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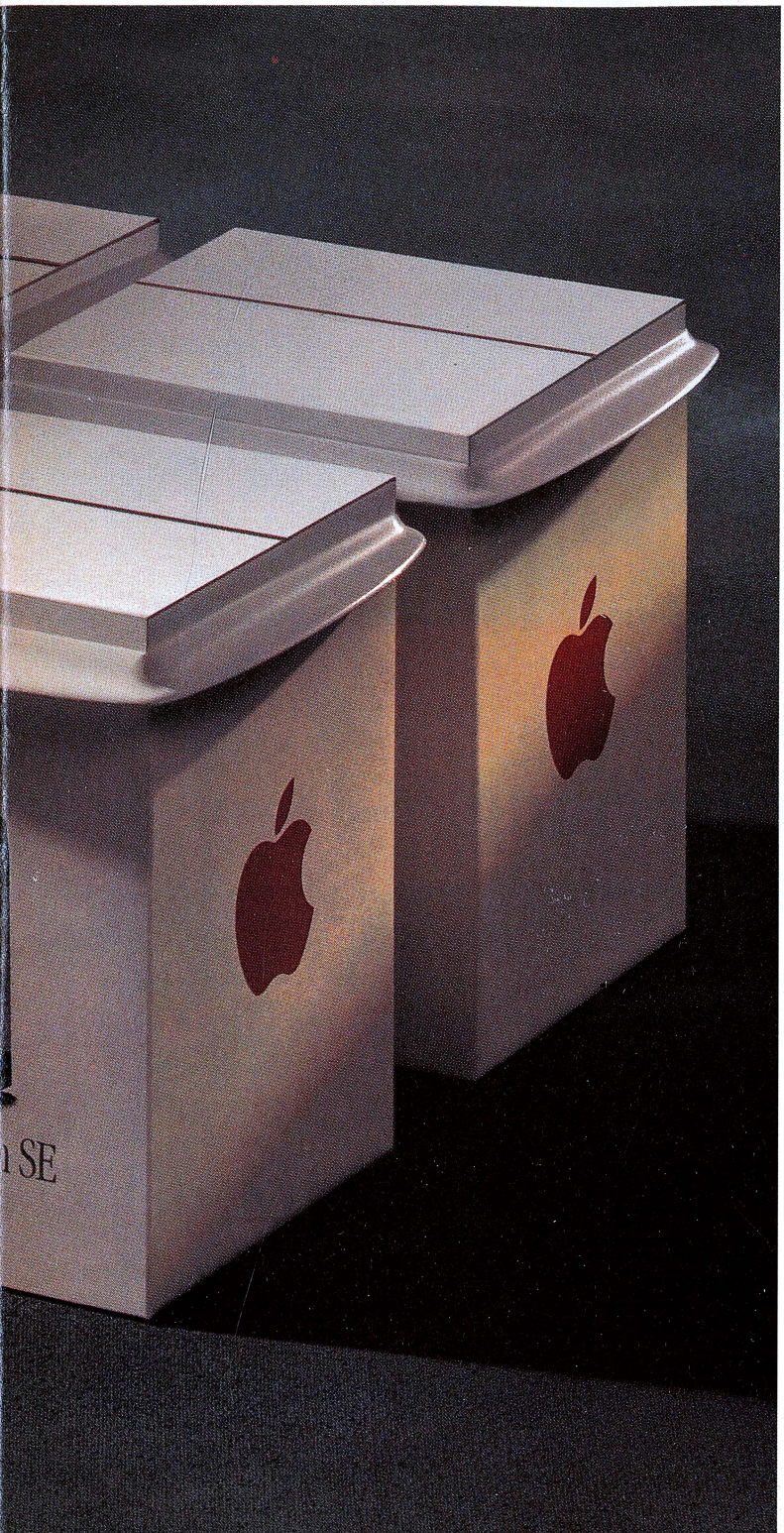

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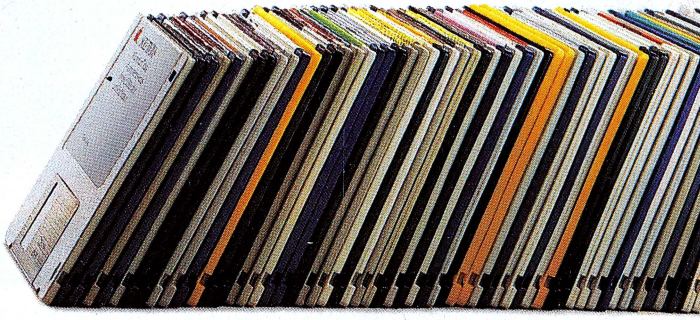

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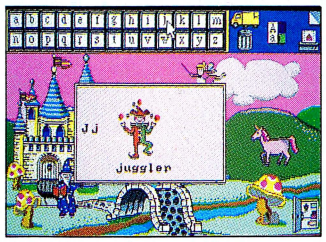

IBM PC/Tandy screen

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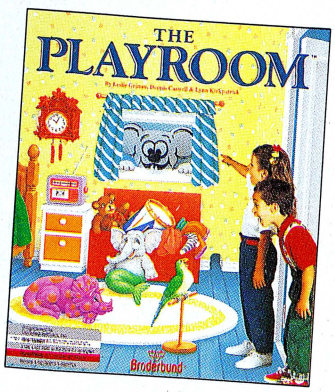

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TEACHING and computers

VOLUME 7, NUMBER 6 MAY/JUNE 1990

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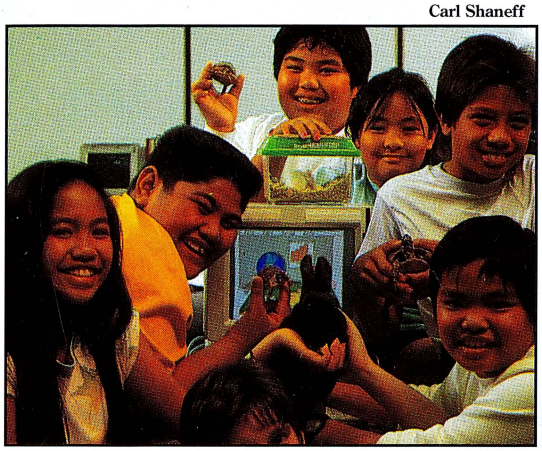

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Cover photo by Marshall Harrington

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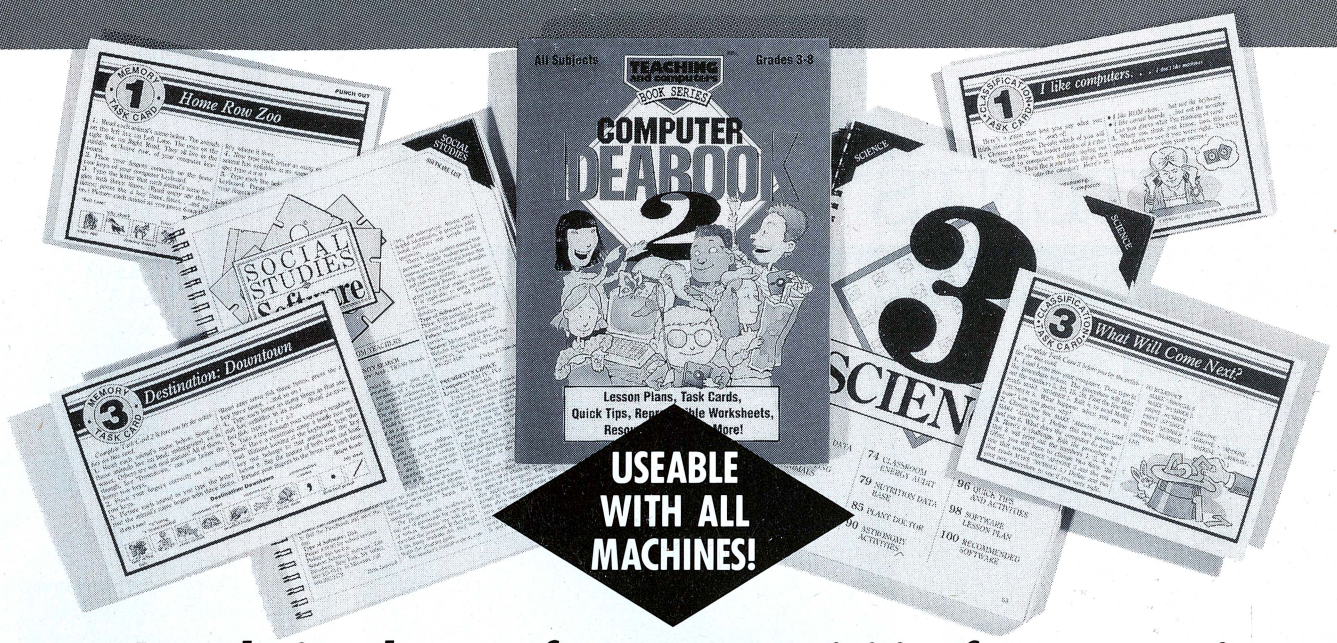
THE COMPUTER IDEABOOK 2



Introducing dozens of computer activities for every major curriculum area...easy to use...and ready to use!

This brand-new book collection of pre-planned lessons, culled from the pages of *Teaching and Computers* Magazine, will make a welcome addition to your classroom.

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FROM THE EDITOR

A Look Inside T&C

A SPECIAL THANKS

In the spring of 1983, Scholastic published the premiere issue of *Teaching and Computers* with a cover headline that read: "Ten Things to Do the Day the Computer Arrives."

In that issue, we promised "a new kind of magazine for teachers." It was to be a magazine that would help teachers understand what computers are and how to use them; it was to be a magazine that would help teachers incorporate the use of computers and other technology into the curriculum; it was to be a magazine that would, in fact, not only provide "ten things to do the day the computer arrives," but every day after that as well.

For the past seven years, thanks in no small measure to the help and support of many of you, *T&C* has enthusiatically lived up to that task. Every issue has been jam-packed with computer tips, electronic lesson plans, reproducible worksheets, activity cards, and bulletin board ideas — all designed to help you make teaching and learning with technology more effective.

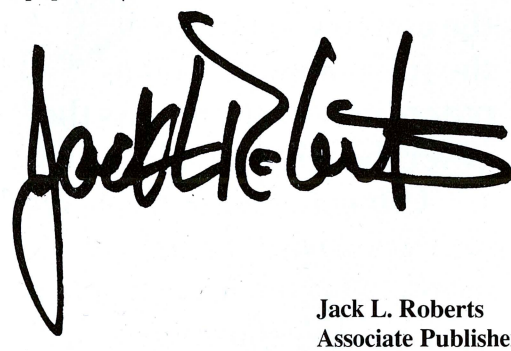
During those years, we've seen technology in education advance from a grass-roots movement, largely spearheaded by enthusiastic teachers like yourself, to become the underpinning for teacher empowerment, restructuring, and active learning — educational buzzwords for the 90s.

Recently, as many of you know by now, Scholastic acquired *Instructor* magazine, the oldest and most popular magazine for elementary school teachers in the country. With that acquisition and its broad-based circulation, we have a unique opportunity to expand the original *T&C* mission to an even larger group of elementary school teachers.

Therefore, beginning this fall, *Teaching and Computers* will no longer exist as a separate magazine. But that doesn't mean it won't exist at all. In each issue of *Instructor* magazine you'll find a special *T&C* section devoted to the kinds of technology-based activities and teaching ideas that have made *T&C* a valuable and well-used magazine. In addition to this special *T&C* section in *Instructor*, you'll also find other technology ideas and tips throughout the magazine.

While it's sad to see *T&C* close as a separate magazine, we are very happy to know that it will take on new life in the pages of *Instructor* and that through *Instructor* we will continue to "get the word out" about the power of technology for teaching and learning to an even larger and more diverse audience.

To those teachers who have subscribed and contributed to *Teaching and Computers* through the years, we want to send a special thanks. Your support and advice these past seven years have been crucial to our success. And we know that the editors and publishers of *Instructor* will look forward to your continued support in the future.



Jack L. Roberts
Associate Publisher/
Editorial Director

Will Your Computers Pass Tomorrow's Tests?

Can your computers pass this simple test?

Do they offer a broad range of advanced courseware?

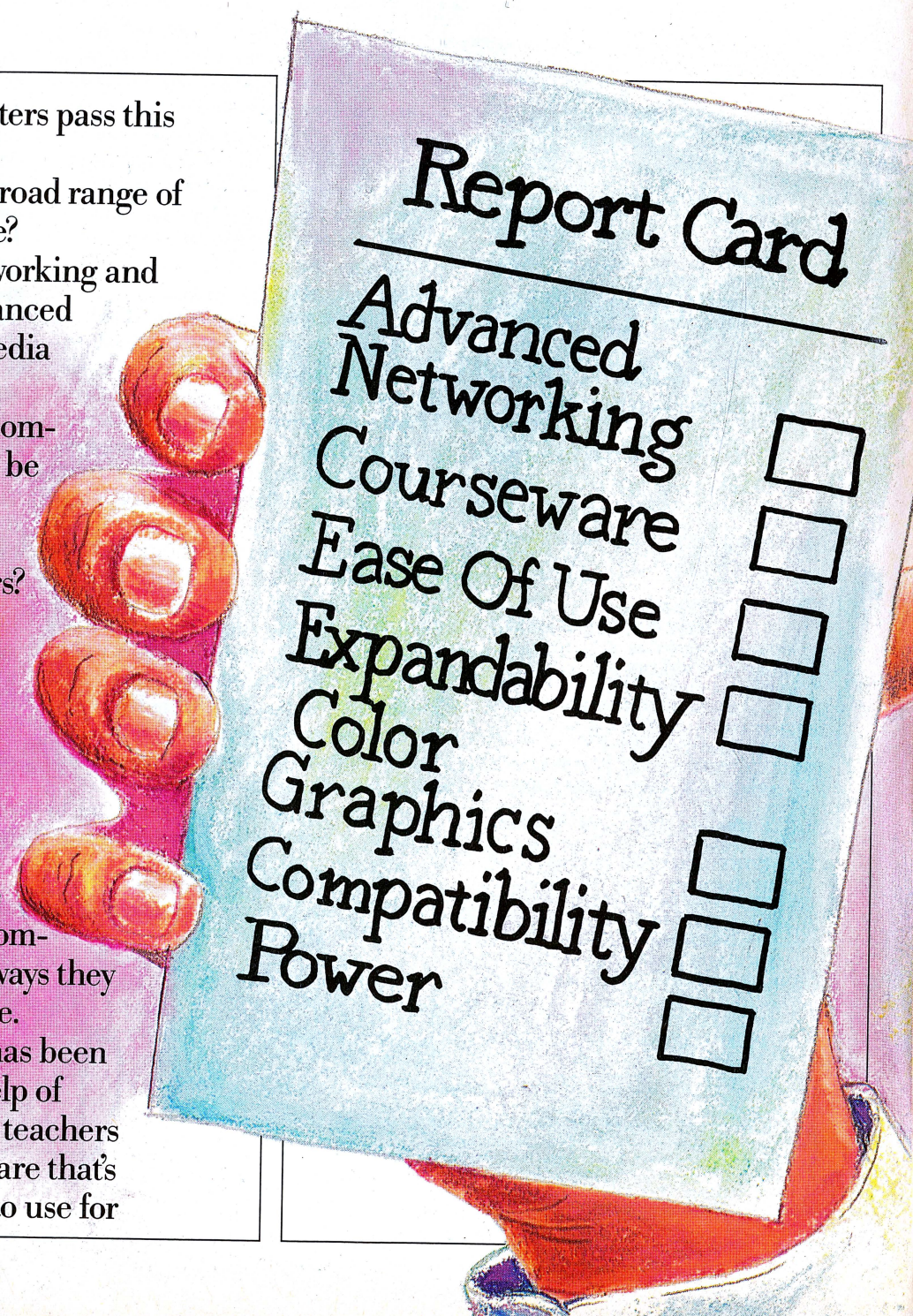
What about networking and compatibility, or advanced features like multimedia capabilities?

Finally, will the computers in your school be flexible enough to handle your needs in five years? In ten years?

If you answered "no" to any of the above, chances are your computers are failing you.

IBM is helping educators all across the country to realize the full potential of computers in schools, in ways they never thought possible.

Our courseware has been developed with the help of more than 200 active teachers nationwide—courseware that's advanced, yet simple to use for



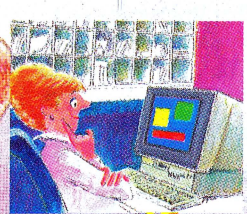
students from kindergarten through high school.

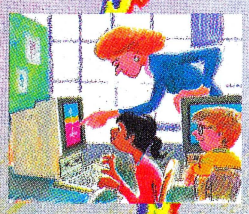
To complement our courseware, we've created a computer specifically for use in the classroom: the IBM PS/2 Model 25 desktop computer.

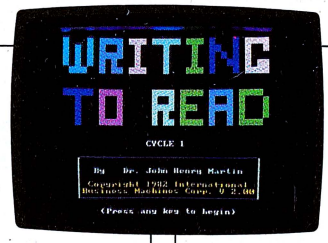
In addition to offering one of the smallest footprint sizes of any classroom computer, the Model 25 lets you take advantage of superior color graphics capabilities, a large easy-to-read viewing screen and incredible processing power. And since the Model 25 is compatible with other IBM personal systems, the courseware that runs on one PS/2 runs on every PS/2.

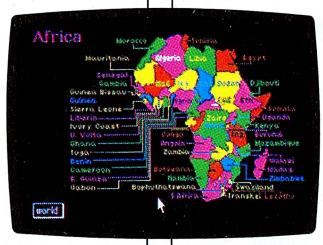
No one offers you so many different types of educational tools, or more ways to use them. IBM Networking, for example, lets teachers link their computers to students or to other teachers to share courseware, multimedia programs and other types of information, across the hall, across the building or across town.

As your needs grow and change, IBM also gives you the flexibility to add to your network,

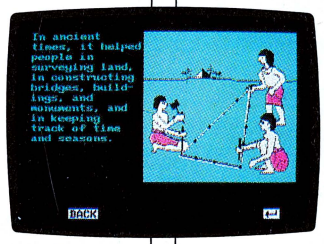








IBM courseware developed with teachers for teachers



whether it's one year down the road or ten.

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UPDATE

News for Computer-Using Teachers

EDITED BY BILL MORGAN GOSEWISCH

NEW KEYBOARDING SYSTEM FROM HERZOG RESEARCH

Herzog Research in Tuscon, Arizona has created a new method for learning keyboarding. It involves students using "hub keys"—small self-adhesive plastic caps that fit over the central keys on the keyboard. The letters and numbers in the "hub key" system are D, K, 3, 5, and 8. Each "hub key" has raised dots circling the letters and numbers which helps students learn correct hand placement without having to look at the keyboard. Schools using the Herzog system in Tuscon report students learn keyboarding in as little as 10 hours and some fourth graders are typing up to 28 words per minute.

A set of "hub keys" for one keyboard costs $20. There are discounts for orders of 20 sets or more. Contact Herzog Research, 1433 E. Broadway, Tuscon, Ariz. 87519.

(Circle 101 on Product Info. Card.)

THREE COMPANIES LOAN VIDEODISCS AND PLAYERS TO SCHOOLS

Sony Intelligent Systems, Optical Data Corporation, and ABC News have announced a 30-day free preview program of videodiscs and videodisc players for schools.

Schools interested in receiving videodiscs from ABC News Interactive or Optical Data, and a Sony LPD-1200 videodisc player for 30 days, should send a school purchase order form to Optical Data Corporation. At the completion of the trial period, schools must either return or purchase the discs and players.

Videodiscs available for preview are *The 88 Vote*, *In The Holy Land*, and *Martin Luther King, Jr.* from ABC News. Titles from Optical Data include *Windows on Science*, *The Living Textbook*, and the *Space Disc* series.

For information contact Pam Herber at Optical Data Corporation, 30 Technology Drive, Warren, NJ 07060; 201/668-0022; or Stephen Burke, Sony Corporation, One Sony Drive, Park Ridge, NJ 07656; 201/930-7323.

(Circle 102 on Product Info. Card.)

CARMEN SANDIEGO NOW AVAILABLE FOR THE AMIGA

Where in the World is Carmen Sandiego?, *Where in the USA...?*, and *Where in Europe ...?* (Broderbund Software) are now available for the Commodore Amiga. Each adventure teaches social studies and reference skills in a fast-paced detective game format.

The school edition is $59.95; lab packs are $119.95. Contact: Broderbund Software Inc., 17 Paul Drive, San Rafael, Calif. 94903-2101; 415/492-3200.

(Circle 103 on Product Info. Card.)

ADVANCED IDEAS RELEASES SOFTWARE PROGRAM ON WHALES

Audubon Wildlife Adventures: Whales helps students explore the conflicts between people and whales as they play the role of marine biologist. Special features include computer maps, a whales data base, graphics, and advice from ecological experts.

The software runs on Apple IIe, IIc, and IBM computers ($49.95; school edition $79.95), and the Apple IIGS ($59.95; school edition $89.95). Contact: Advanced Ideas Inc., 2902 San Pablo Avenue, Berkeley, Calif. 94702; 415/526-9100.

(Circle 104 on Product Info. Card.)

CES OFFERS SIMPLE SOLUTIONS TO COMMON PRINTER PROBLEMS

The CES Training Corp., a Paramus, New Jersey-based consulting and technical support organization offers a few tips for maintaining your printer.

- Always remove the roller before cleaning. If possible, remove the roller by slipping down plastic clamps or wing nuts. Finally, never use anything stronger than alcohol to clean the roller.
- Use the previous technique to remove jammed paper. Never use sharp objects such as a screwdriver or knife to remove paper.
- If self-adhesive labels get stuck, always turn the roller toward you.
- At least once a year, more often for heavily-used printers, put a fine coat of very light oil (i.e. sewing machine oil) on the head tracks to keep them moving smoothly. Note: Some printers warn against using any lubricant, check your manual before doing so.

For more information, contact CES Training Corp., 10 Forest Avenue, Paramus, NJ 07652; 201/843-6444.

RESULTS FROM THE GREAT AMERICAN EXPLORERS ESSAY CONTEST

HeadStart Technologies and Scholastic Inc.'s Great American Explorer Essay Contest was a huge success. A total of 98,279 students in grades K-12 from just under 12,000 schools sent in essays on over 35 explorers! Out of over 98,000 essays, 25 were chosen as winners of a HeadStart Technologies Explorer computer. Teachers submitting the winning students' essays were also winners of an Explorer computer.

Congratulations to the winners and to everyone who entered The Great American Explorer Essay Contest!

Please note: The winners are listed by name, grade, school, city and state, teacher who submitted the winning student's essay, and the explorer the student chose.

AND THE WINNERS ARE!

Christopher Fettin
1st grade
Bancroft Elementary
Omaha, Nebraska
Mary Grossman
Martin Luther King, Jr.

Summer E. Lindsey
4th grade
Armand Bayou Elementary
Houston, Texas
Kathy Bailey
Susan Brownell Anthony

Marie Patino
4th grade
Morro Elementary
Morro Bay, California
Joan Peterson
Lewis and Clark

dale, Fla.
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Shawna Cruel
7th grade
Jefferson County
Junior High School
Fayette, Mississippi
Arella Bacon
Daniel Boone

Eric Austrew
7th grade
Gobe Middle
School
Raymond, NH
Michelle Neller
John Watts Young

Tiffany Johnson
8th grade
Bret Harte
Intermediate School
Haywood, Calif.
Cynthia McBridge
Me

Michael Hackett
8th grade
Bacon County
High School
Alma, Georgia
Patricia Taylor
Francis Drake

Emily Perez
8th grade
Mary Hoge Jr. High
Weslaco, Texas
Cynthia Alperin
Emily Dickinson

Jennifer Dilley
10th grade
Cambridge High
Cambridge, Ohio
Martin McKay
Average Men

Rebra Jackson
11th grade
Bloom Trail High
Chicago Hts., Ill.
Patricia Walker
Estevanico

John Vician (12)
Plymouth High
Plymouth, Ind.
Dennis Kincade
Frank Lloyd Wright

Nia White (12)
Roy High School
Roy, Utah
Van R. Hadley
John Muir

Instant lesson ideas, now available in 8 *Teaching and Computers* products.

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COMPUTER LESSON PLANS, PROJECTS, POSTERS, AND MORE...
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OC39341	Computer Poster Pack		11.95	
OC39309	Science Lesson Plans		19.95	
OC39278	Social Studies Lesson Plans		19.95	
OC39310	Story Writing Task Cards		19.95	
OC39046	Computer Ideabook (NEW!)		17.95	
OC42647	Computer Ideabook II (NEW!)		17.95	
OC39047	Holiday Computer Activities		17.95	
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UPDATE

NEW KEYBOARDING SYSTEM FROM HERZOG RESEARCH

Herzog Research in Tuscon, Arizona has created a new method for learning keyboarding. It involves students using "hub keys"—small self-adhesive plastic caps that fit over the central keys on the keyboard. The letters and numbers in the "hub key" system are D, K, 3, 5, and 8. Each "hub key" has raised dots circling the letters and numbers which helps students learn correct hand placement without having to look at the keyboard. Schools using the Herzog system in Tuscon report students learn keyboarding in as little as 10 hours and some fourth graders are typing up to 28 words per minute.

A set of "hub keys" for one keyboard costs $20. There are discounts for orders of 20 sets or more. Contact Herzog Research, 1433 E. Broadway, Tuscon, Ariz. 87519.

(Circle 101 on Product Info. Card.)

THREE COMPANIES LOAN VIDEODISCS AND PLAYERS TO SCHOOLS

Sony Intelligent Systems, Optical Data Corporation, and ABC News have announced a 30-day free preview program of videodiscs and videodisc players for schools.

Schools interested in receiving videodiscs from ABC News Interactive or Optical Data, and a Sony LPD-1200 videodisc player for 30 days, should send a school purchase order form to Optical Data Corporation. At the completion of the trial period, schools must either return or purchase the discs and players.

Videodiscs available for preview are *The 88 Vote*, *In The Holy Land*, and *Martin Luther King, Jr.* from ABC News. Titles from Optical Data include *Windows on Science*, *The Living Textbook*, and the *Space Disc* series.

For information contact Pam Herber at Optical Data Corporation, 30 Technology Drive, Warren, NJ 07060; 201/668-0022; or Stephen Burke, Sony Corporation, One Sony Drive, Park Ridge, NJ 07656; 201/930-7323.

(Circle 102 on Product Info. Card.)

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Where in the W Sandiego?, *Where in Where in Europe ...?* ware) are now avail modore Amiga. Each es social studies and a fast-paced detective

The school editi packs are $119.95. bund Software Inc., Rafael, Calif. 9490 3200.

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Audubon Wildli Whales helps studen flicts between peop they play the role of Special features in maps, a whales dat and advice from ecol

The software runs and IBM computer edition $79.95), and ($59.95; school edit tact: Advanced Ide Pablo Avenue, Berk 415/526-9100.

(Circle 104 on Produ

CES OFFERS S SOLUTIONS TO PRINTER PRO

The CES Trainin mus, New Jersey-bas technical support org few tips for maintaini

•Always remove cleaning. If possible, by slipping down p wing nuts. Finally, n stronger than alco roller.

•Use the previo remove jammed p sharp objects such as knife to remove pape

•If self-adhesive always turn the roller

•At least once a ye

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PS 131
Brooklyn, NY
Robert Fucalaro
Neil Armstrong

Patrick Stark
4th grade
Bath Elementary School
Akron, Ohio
Ruth Ann Struglinski
Christopher Columbus

Michael Burger
5th grade
Parkade Elementary School
Columbia, Missouri
Linda Klopfenstein
Martin L. King, Jr.

Melanie Hall
5th grade
Glidden Ralston School
Glidden, Iowa
Sheryl Reiter
Martin L. King, Jr.

Jeremy Herskowitz
5th grade
Dillbrook Elementary
Aiken, S. C.
Eavon Hickson
Walt Disney

Gus L. King
5th grade
Green Forest Elementary
Green Forest, Ariz.
Jewelle Trask
Thaddeus Lowe

Maud Selendy
5th grade
Cooperstown Elem.
Cooperstown, NY
Constance McCrea
Lewis and Clark

Heather Bower
6th grade
St. Peter Elementary
New Brunswick, NJ
Maureen Hunt
Amelia Earhart

Regan Hunt
6th grade
Pine Crest School
Ft. Lauderdale, Fla.
Jean Newman
Peter Jenkins

Rachel Chertok
6th grade
PS 139
Rego Park, NY
Ronnie Brodie
Jacques Cousteau

Courtney Koch
6th grade
Blanco Middle School
Blanco, Texas
Janet Johnson
Sacagawea

Michael Riddle
6th grade
Thomas Dooley
Schamburg, Ill
Catherine Messina
Vitus Bering

Anne Ravert
7th grade
Sunbury Middle School
Sunbury, PA
Margaret Auten
Neil Armstrong

Shawna Cruel
7th grade
Jefferson County Junior High School
Fayette, Mississippi
Arella Bacon
Daniel Boone

Eric Austrew
7th grade
Gobe Middle School
Raymond, NH
Michelle Neller
John Watts Young

Tiffany Johnson
8th grade
Bret Harte Intermediate School
Haywood, Calif.
Cynthia McBridge
Me

Michael Hackett
8th grade
Bacon County High School
Alma, Georgia
Patricia Taylor
Francis Drake

Emily Perez
8th grade
Mary Hoge Jr. High
Weslaco, Texas
Cynthia Alperin
Emily Dickinson

Jennifer Dilley
10th grade
Cambridge High
Cambridge, Ohio
Martin McKay
Average Men

Rebra Jackson
11th grade
Bloom Trail High
Chicago Hts., Ill.
Patricia Walker
Estevanico

John Vician (12)
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Plymouth, Ind.
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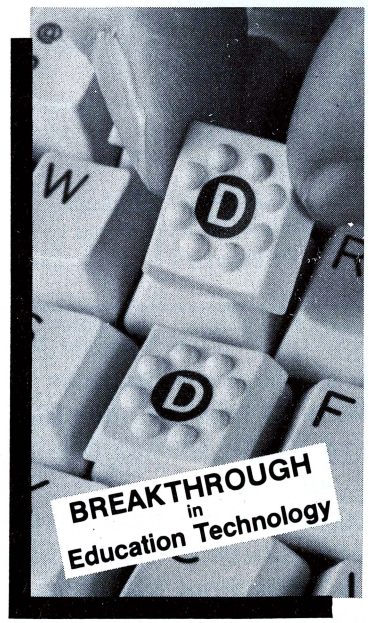

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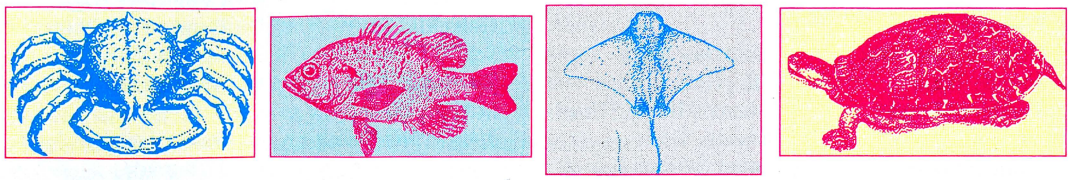
MICRO IDEAS

BY BILL MORGAN GOSEWISCH

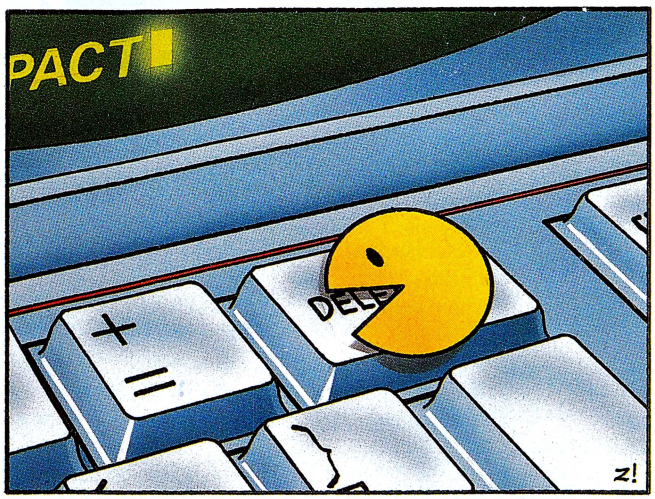
Quick Computer Tips and Activities

KRIDDLES TEACH STUDENTS ABOUT SEA LIFE

Sea Life Riddles is a lesson that combines riddles, computers, and sea life facts. Using *Print Shop's* (Broderbund) greeting card feature, students design the face of a card to contain a few brief clues to the identity of a sea creature. The inside of the card contains a graphic and text revealing the riddle's answer. With the wide variety of clip art available, the choices children have in making up their own riddles is virtually unlimited.



Rosemary Alesandro
Harry L. Bain School
West New York, N.J.



RON ZALME

PAC-MAN HELPS STUDENTS UNDERSTAND DELETE KEY

The delete key can be difficult to explain to K-3 students. I put a handmade Pac-Man sticker over the delete key to show students that the key, like Pac-Man, gobbles up characters in its way. I explain that Pac-Man's mouth (the cursor) must be behind the mistakes they want to delete.

Carolyn Price
Immaculate Conception School
Chicago, Ill.

COMPUTER CLUB TEACHES ENTHUSIASTIC MEMBERSHIP KEYBOARDING

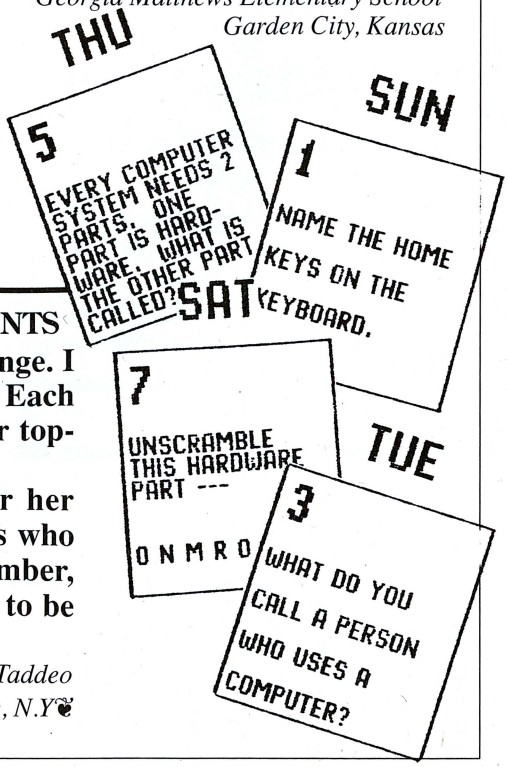
Students at Georgia Matthew Elementary School in Garden City, Kansas learn keyboarding as members of the Georgie Paws Computer Club.

The club meets Mondays after school for one hour and awards "Flying Paws" for a typing speed of 25 words per minute and a "Golden Paws" award for a speed of 30 words per minute.

Students pair off to retrieve computers from classrooms and place them in the club's meeting space-the hallway. Membership lasts nine weeks and membership is awarded from a random drawing of fourth through sixth graders requesting admission into the club. Space limitations allow only 18 students per nine week session to be admitted.

School board members and school administrators have visited the club and are impressed with the reports students type up as well as speeds of up to 45 words per minute by some students after nine weeks of being club members.

Leticia Porter
Georgia Matthews Elementary School
Garden City, Kansas



SUMMERTIME ACTIVITY FOR COMPUTER-USING STUDENTS

Each summer I dare students to take my Computer Challenge. I use a graphics program to develop a special calendar for July. Each day of the month has a question or riddle relating to computer topics introduced throughout the school year.

The student answers a question a day and writes his or her response on an answer sheet that has been provided. Students who return the completed calendar when school begins in September, receive a special achievement award. This activity has proven to be a great way to end one school year and begin another.

Mary A. Taddeo
Melville, N.Y.

CLASSROOM HAPPENINGS

What's Happening in Computer Classrooms

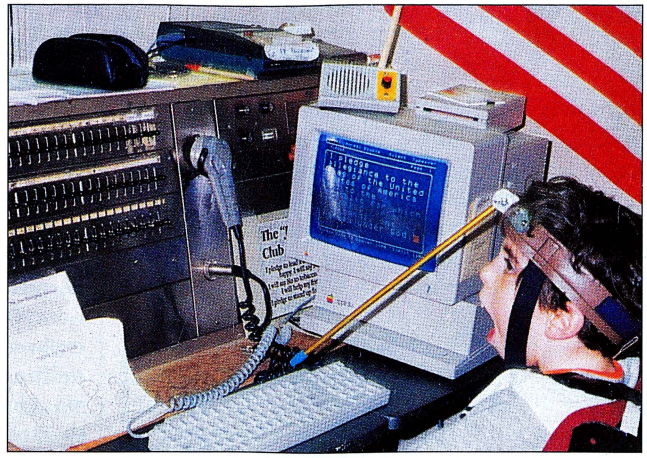
BY BILL MORGAN GOSEWISCH

COMPUTER HELPS NONVERBAL STUDENT READ ANNOUNCEMENTS

Steven Hausler is a fifth grade, nonverbal, multihandicapped student at Suburban Park School in Norfolk, Virginia. He uses computers for his academic studies as well as for communicating with his classmates.

Hausler wanted a turn at giving the school's morning announcements over the loudspeaker. He typed the Pledge of Allegiance and the daily announcements into the computer. He then taped the computer's voice reading his file onto a recorder and played it for the school.

"Teachers reported that students in all the classes gave Steven a standing ovation when he was finished with the announcements," says Patricia Shubert, Computer Specialist for Special Education at the Norfolk Public Schools.



Steven Hausler "reads" morning announcements.

STUDENTS BUILD COMPUTERS OF THE FUTURE

The students in Monique Crenier's computer classes at the Alexander Bain School in Mexico City are not only working with computers, they're making them.

Crenier's first, second, and third grade students were given the assignment of making their own computers as part of a computer exhibit. There were only two stipulations: the computers had to have functions not yet invented and be made out of articles found in the garbage.

"The results were amazing," says Crenier. "It stimulates creativity in students and gets them thinking about the possibilities of the future."

The students created computers with three screens and integrated telephones. One student designed a computer with babies in mind—it played lullabies.

Student at Alexander Bain School uses a telephone-integrated computer she invented for school's computer exhibit.

PORTABLE COMPUTER LAB SERVES SAINT MATTHEW SCHOOL

Sister Janet M. Purcell was determined to create a computer lab at Saint Matthew School in Forestville, Connecticut. Unfortunately, the school lacked space. Using a laptop computer, she got the idea of building a portable computer lab.

Purcell talked to the Home and School Association and the school's pastor and was able to secure a loan that enabled her to purchase 15 Tandy 1400FD laptops. One parent volunteered to make cabinets that would house and transport the computers; another parent made every classroom electronically ready for the computers.

"Teachers and students," says Purcell, "are happy and thrilled with our new computer lab."

To repay the loan, Purcell has her eighth grade students operating a candy cart during lunch, while she teaches adult computer courses, and a group of eighth grade parents sold Christmas trees.

"So far," reports Purcell, "we have been able to repay over one-fourth of the loan."

STUDENTS OPERATE SCHOOL PUBLISHING CENTER

More than 400 young authors will publish their writing this year at Indian Creek Elementary School in Olathe, Kansas. Teachers there set up a publishing center in the school library in an effort to strengthen reading and writing skills.

The center is equipped with two Apple IIecomputers with printers, an Ibico binder, a laminator, and a supply of card stock for covers. Students use *Bank Street Writer* (Scholastic) to write everything from short stories to full-length books. Two copies of each work are made, one for the library's permanent collection and one copy that can be checked out by students.

Teachers aides and parent volunteers spent seven hours training on the equipment and software, learning the writing process, and encouraging students' efforts.

Kindergartners dictate their stories while older children type their own on the computer. The writing is not graded, but students in the second grade prepare "sloppy copies" for peer editing before final versions are published.

BY CANDY COLBORN

Online Professional Development

There's a lot of talk about how telecommunications helps children learn. How can it help you become a better teacher and classroom manager? Here's a primer on how to get started and the benefits of "online" professional development.

MODEMS AND SOFTWARE

The first piece of equipment you need to telecommunicate is a modem, a device that encodes computer data so that it can travel over phone lines. A modem is a simply designed box which connects to both your computer and your telephone. (Your telephone will still work as a telephone; you just can't make calls while you're using the modem.) Many modems, even up to 2400 baud (a baud is a unit that measures the speed at which information is transferred; 2400 is near the maximum rate at which a telephone line can transmit data), are now available in the $100 range.

Unless you literally live at school, you should have a modem connected to your computer at home for the two most obvious reasons: time and money. There is precious little time to learn how to telecommunicate during the school day, and at home you can choose the time to experiment (perhaps when a spouse is at class and the kids are in bed?), then share your newfound knowledge with others when you know you're ready. Also, online costs can be minimal if you telecommunicate at home because telephone rates are lower at night.

Since you're using a computer, you'll need software too. There are all different kinds of telecommunications programs that work with any kind of computer, among them *Works* (Microsoft Corp.) for the Macintosh, *Point to Point* (Beagle Bros.) for the Apple II, and *ProTerm* (Checkmate Technologies) for MS-DOS. Software prices range from free to $100. Contact your local users group (get the name at your local computer store if you don't have a contact), talk to other teachers, and find out what people are happiest with. If you work with software others are using, help is easier to come by.

Okay, you've got your modem, you've got your software—now what do you do?

STEP #1-LOCAL BOARDS

If you live in an urban area, you can learn a great deal about telecommunications and computing in general by calling a local electronic bulletin board. A bulletin board does what its name says it does: It posts information. Via your computer and phone line, you send information to the board for others to read; conversely, you can read whatever information others have sent. Most bulletin boards are subdivided into different interest areas, so that if you have questions about hardware, for instance, there is probably a hardware subdivision on your local board where you can post your questions and receive answers.

Local boards also have a supply of public domain software. You may be able to find a math program for a student with special needs, an adventure game to be improved upon by your ace student programmer, or an alphabet game for your preschooler. You can also share your favorite public domain program. How can you exchange software via a bulletin board? Through downloading and uploading, two important telecom terms.

Download means that if you see a public domain program (or any kind of information) on your bulletin board you'd like to have, you can use your telecom software to download it onto a data disk waiting in your drive. Upload means that you can send a public domain program (or other information) out to the bulletin board. It's a wonderful way to learn about software.

Another telecommunications bonus, electronic mail, or E-mail, allows you to communicate directly with other network users. If you are simply exchanging ordinary "mail" with other online users, you might wonder if it wouldn't make more sense to pick up the telephone. Here are some of the advantages of electronic mail and the ways it can be used to help you as an educator.

You can *always* leave a message for someone online. The mailboxes are always open. If the time you have to work is midnight, five in the morning, or eight in the evening, the system is always there for you to use.

You can send entire files as well as messages. The same system that allows you to upload and download software allows you to send files to other individuals. If you are having a conversation with a friend about a great lesson plan you just created for a social studies class, you can send that file instantly. You have the speed of a fax machine with the greater advantage of being able to send information that will go directly to a disk and can then be manipulated and used in many different ways. When *Children's Writing and Publishing Center* (The Learning Co.) came out, several of us online were writing back and forth just the way you would send any pen pal letters, but the results were printed out in the fully illustrated and multi-font format of the software we were just learning to use. Think of electronic mail as enabling you to do all the visiting and idea-

Think of electronic mail as enabling you to do all the visiting and idea-exchanging with other teachers that you don't have the time to do during the school day or year.

exchanging with other teachers you don't have the time to do during the school day or year.

STEP #2—COMMERCIAL SERVICES

Commercial online services take the idea of local bulletin boards one step further. While commercial services do charge for online time, the world that opens up to you is worth a great deal. Some of the best features for newcomers to America Online, for example (the commercial service I used for this article; for a complete list of commercial services, see related story on page 33), are the beginner's forums. Apple II, Macintosh, and MS-DOS often have their own meeting time and a place devoted to new users. These are great places to learn. The big advantage here over local boards is that many people can "chat" at the same time. It's like a huge party line, but easier to follow because all the conversation appears in print (and can be saved to disk if desired).

Want to learn more about computing to extend your own skills as teacher or programmer? Sign up for an online course. I finally got comfortable with ProDos pathname rules after taking an online class. BASIC, PASCAL, and home budgeting with your spreadsheet program are just a few of the other courses that have been offered online. Some classes meet at a specified hour each week. Others are conducted like independent studies during which you meet with your instructor as needed.

Educational forums are the heart of a commercial online system. Weekly chats on educational topics provide a time and place to discuss issues and problems and share solutions without paying a conference fee or travel expenses. If you cannot attend a particular conference, you can download the "log" of the conference at a later time.

In addition to weekly chats, each forum has an extensive software library. Unlike local boards, which are run by people more as a hobby than as a professional service, online services exercise quality control. This means that the software you download from commercial services is more likely to be "bug free" than from local sources. One of the most exciting aspects of the

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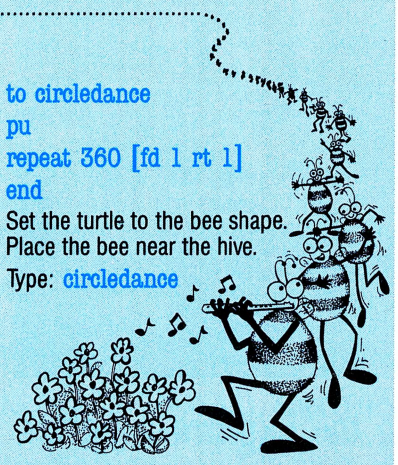
BEE DANCE
(Science/Communication)

Karl von Frisch, a zoologist, discovered there is a bee language. Bees communicate by carrying out special "dances." Each of the two types of dances – circling and wagging – gives different information about where food is located. Find out about how bees move and what they eat. Use LogoWriter to draw a hive and, in the distance, food. Create a bee shape. Then write a dance procedure:

```
to circledance
pu
repeat 360 [fd 1 rt 1]
end
```

Set the turtle to the bee shape. Place the bee near the hive.
Type: circledance



Going farther: Define a wagdance procedure. Is the food closer or farther away? Show how other animals communicate through movement. How are bee dances different?

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Educational forums are the heart of a commercial online system. Weekly chats on educational topics provide a time and place to discuss problems and share solutions without paying a conference fee or travel expenses.

software libraries currently online for teachers is the availability of *HyperStudio*, *TutorTech*, and *HyperCard* stacks on dozens of different subjects.

Other kinds of forums include one devoted entirely to *AppleWorks* which provides discussions, templates, dozens of word processor, data base, and spreadsheet files ready for your own use. In the word processing forum, you can explore the many different types of word processors and desktop publishing programs.

Need to learn more about disk operating systems, copy utilities, or management of your rapidly accumulating data? Investigate the utilities forums. Online you will find the programs to help you manage your system, as well as the people who wrote or uploaded them to answer your questions. You can even query the system to see if any particular people are online at the same time you are, and if so, send screens, no matter where on the system they are or what they are doing. As I was learning to make legal backups of protected software, I sent quite a few of those messages, and got the help I needed to understand block editing.

Ever spend your entire break trying to contact a software company about crashed disks or back-up policies? Many major developers are represented in a special area online and you can get questions answered quickly. Many commercial representatives are also present in the various educational chats and can be questioned at length about products and policies of their company. There are sometimes chats in the word processing, productivity, or other forums that focus an entire hour on one product, with the programmer or developer in attendance to answer questions.

If you and your students are involved in desktop publishing, or use paint and graphics programs, you can find a gold mine in the art and graphics forums. Experienced computer art and graphics users are available to help; instructional files are filled with project ideas. You can exponentially expand your potential for professional growth with services like these.

EVALUATION: TIME AND MONEY

Using local bulletin boards is just the same as using your telephone for a voice call. You pay exactly the same rate. There have been attempts to change this situation and levy an additional charge on the use of residential telephones for data communication, but as of this writing they have been unsuccessful. When you use most online commercial networks, you make a local call to Telenet or Tymnet, which are "switching" services that will forward your call to the network to which you belong. (When you sign up for a network they'll give you the numbers of your local Telenet or Tymnet companies). You then pay for your time directly to the network. Costs range from $4-$7 per hour during non-prime time hours (evenings, holidays and weekends). When you join a service, be sure to look around for special offers to save you money. For instance, America Online frequently runs contests, offering commercial software and free online hours as prizes.

Whatever kind of service you join, be sure to identify yourself as a beginner, because you'll find other telecommunicators willing to help you find your way. Look for the gathering place for teachers as part of your exploration; every service has one. You will find telecommunications a wonderful way to expand your knowledge as an educator, and a means to be in contact with other people who are excited about teaching and computers.

Candy Colburn is a computer specialist with Cherry Creek Schools in Englewood, Co., and is on the faculty of the University of Phoenix, Denver Campus.

INSERVICE WORKSHOP

A Guide for Teachers Helping Teachers

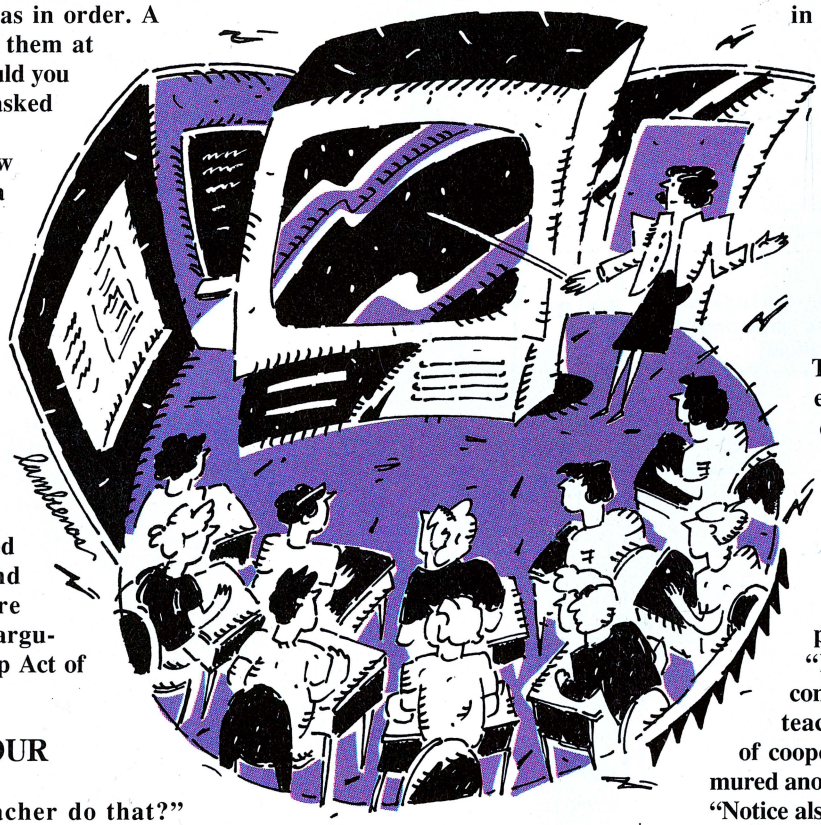
BY CAROLYN FETNER AND KAY JOHNSON

One-Computer Success Stories

One afternoon in the teachers' lounge at So So Elementary, the teachers were discussing all the press the Gung Ho Elementary staff and students had been getting lately for their successful integration of computers into their classrooms. "That's all well and good," said Sally Showme, the school skeptic, "but Gung Ho probably has one computer for every student. We have to live with only one computer per classroom. How could we possibly be as successful as they are?"

To confirm their suspicions that Gung Ho teachers were awash in computers, So So teachers decided that a tour of the school was in order. A Gung Ho guide met them at the door. "Where would you like to begin?" she asked enthusiastically.

A bright light drew their attention to a nearby classroom. So So teachers peeked through the doorway to see an entire class concentrating on a large screen on which was projected *Decisions, Decisions: The Revolutionary War* (Tom Snyder Productions). The class was divided down the middle and the two halves were engaged in a lively argument about the Stamp Act of 1765.



Jim Lambrenos

PROJECTING YOUR IMAGE

"How did the teacher do that?" asked one astonished So So teacher. The Gung Ho guide smiled. "She's using an LCD, which stands for liquid crystal display. It's a simple device attached to the computer that can project a program onto a large wall screen instead of onto a small monitor."

"Of course that works," said Sally Showme. "But how many LCDs can a school afford?" The Gung Ho guide gestured them down the hall to the next class. So So teachers saw a student standing by the computer, dipping a plastic probe-like instrument into several different containers of liquids. The probe was connected to the computer, and the computer was hooked up to a large television set. The class, who had arranged their desks in a semi-circle around the TV, watched as a line graph recorded on screen the temperature changes the probe was reporting. The teacher encouraged the students to note the relationship between the graph and the different kinds of liquids.

"See how easy it is to read the television screen?" asked the guide. "I'll bet you have televisions in your school you have access to." The So So teachers agreed they did.

"But the other secret to this teacher's success," said the Gung Ho guide, "is the software she's using. When you're conducting a large group lesson on the computer, you want to choose software that encourages discussion rather than single answer responses. This teacher is working with Broderbund's *Science Toolkit,* and because students can watch the experiment happen before their eyes, they can participate in a more active way."

TEACHING SMALL GROUPS

"How do you do small group instruction with one computer?" asked a So So teacher. The Gung Ho guide took them to a third grade classroom, where the teacher had located the computer in the reading area, and with a small group gathered around, was introducing *Those Amazing Reading Machines* (MECC). So So teachers were amazed at the other children who worked diligently at their desks while their teacher was occupied. The Gung Ho guide explained that the students were working with printouts of writing assignments they had done the day before, checking their writing partners' essays for spelling and punctuation errors. "Maximum use of the computer," said one So So teacher. "Nice integration of cooperative learning," murmured another.

"Notice also," said the guide, "that the computer isn't making any noise. The teacher has turned off the sound option so that the other students aren't disturbed. That's a very important feature for choosing software for a one-computer classroom."

The So So teachers were getting excited, but Sally Showme withheld her

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judgment. "I see all the possibilities," she said, "but how do I manage the scheduling?" The guide brought the group to meet Patricia Planner, a fourth grade teacher at Gung Ho, who uses innovative scheduling guidelines in her classroom. As she shared her ideas with the teachers, Sally Showme (like any good skeptic) took notes:

1. Include both rigid and flexible segments. Each student or pair of students should have assigned times with a minimum of two half-hour sessions per week. After all students are assigned to these rigid time slots, all other blocks of time should be open for flexible use.

2. Computer use should replace assigned seatwork. On the days students have computer assignments, requirements for completing all other assignments should be adjusted according to the individual student.

3. Allow for both individual and team use. Research has shown that computer use is more effective when students work with partners. Teachers should assign partners, matching strengths and weaknesses, academic ability, and interests. Students will need to work individually as well, for instance, on word processing, or enrichment and reward activities.

4. Coordinate computer schedule with other schedules. Be sure to block out any time for whole class activities such as lunch, art, music, physical education, and so on.

Everyone agreed that this kind of schedule was easily implemented. In fact, they realized that everything they saw that day they could do themselves. Armed with new ideas and a renewed enthusiasm, the So So teachers said their good-byes and thanks to the successful teachers at Gung Ho. "I think we're going to have our own success stories soon," said—would you believe?—Sally Showme, who we've heard is changing her name to Sally Sold! ❦

Carolyn Fetner and **Kay Johnson** are media specialists at Dyer Elementary and Centerville Elementary, respectively, in Gwinett County, Ga.

AWARD WINN LES PLANS

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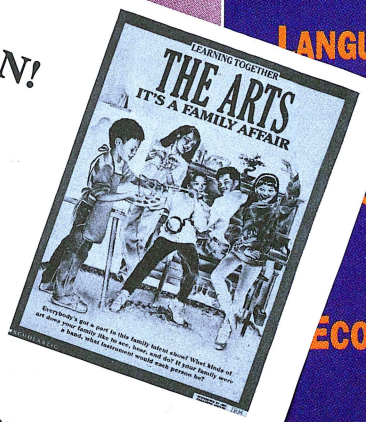
TEACHING AND COMPUTERS READERS



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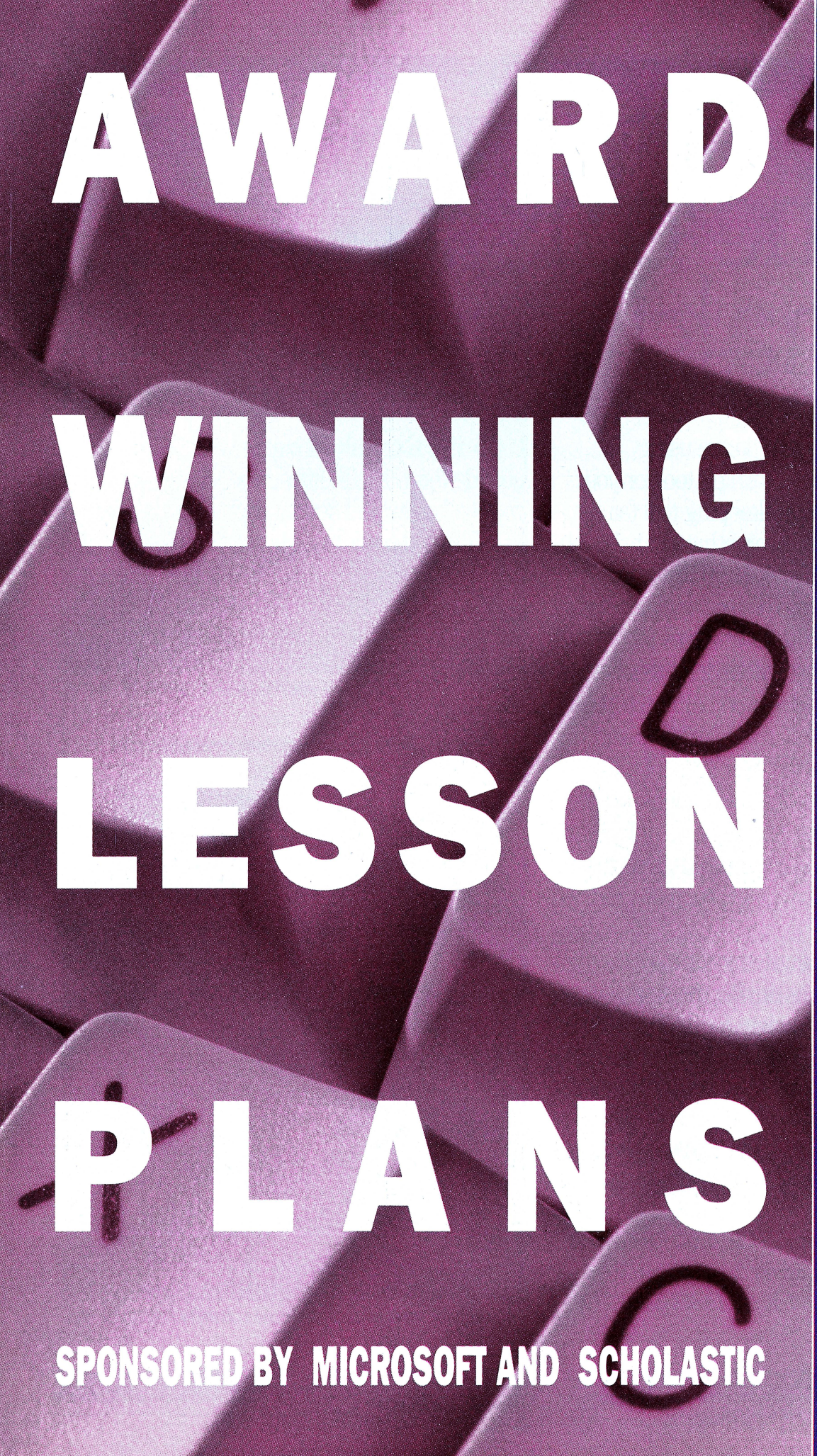

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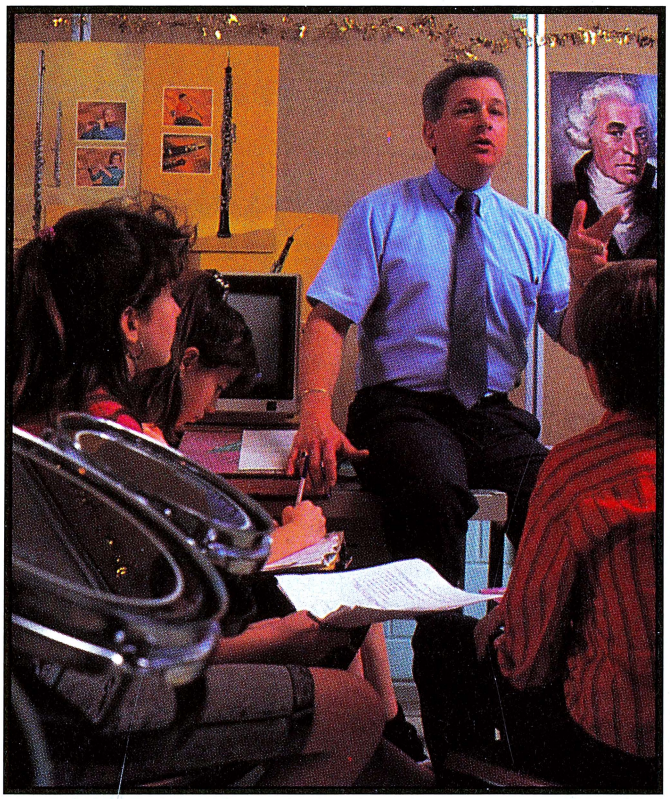

JEFFREY SEISE, ***IBM PLATFORM WINNER***

JOY BROWNSWORD, ***MACINTOSH PLATFORM WINNER***

AWARD-WINNING LESSON PLANS

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AN INTRODUCTION

This Special Supplement to the May/June, 1990, issues of *Electronic Learning* and *Teaching and Computers* highlights the winners in the recent *Microsoft Works* Lesson Plan Writing Contest sponsored by Microsoft and Scholastic.

The *Microsoft Works* Lesson Plan Writing Contest was open to teachers in grades K-12 and asked entrants to incorporate the use of one or more *Microsoft Works* applications into a lesson plan for any curriculum area.

Jeffrey Seise of Waldwick, N.J., and Joy Brownsword of the Gulf Islands, British Columbia, are the Grand Prize winners.

Jeffrey Seise, who teaches at East Brook Elementary in Park Ridge, N.J., won the IBM platform Grand Prize and will receive an IBM Personal System/2 Model 30, a Proprinter II, and the latest version of *Microsoft Works* for the PC.

Joy Brownsword, who teaches at Fernwood Elementary in Ganges, British Columbia, won the Macintosh platform category and will receive a Macintosh SE with 20 meg hard disk drive, an ImageWriter printer, and the latest version of *Microsoft Works* for the Macintosh.

The ten runners-up will each receive a Class-in-a-Box courseware kit. The 60 honorable mentions will each receive a *Microsoft Works* T-shirt .

Microsoft and Scholastic congratulate the winners and thank all participants in The *Microsoft Works* Lesson Plan Writing Contest. ■

PHOTOS: TOP, ANDREW LEVINE, BOTTOM, DENISE HOWARD

BEETHOVEN'S BEAT

PREPARATION

Play the first thirty seconds of Beethoven's Fifth Symphony. How many of your students have heard it before? How many know who Beethoven is?

ACTIVITY

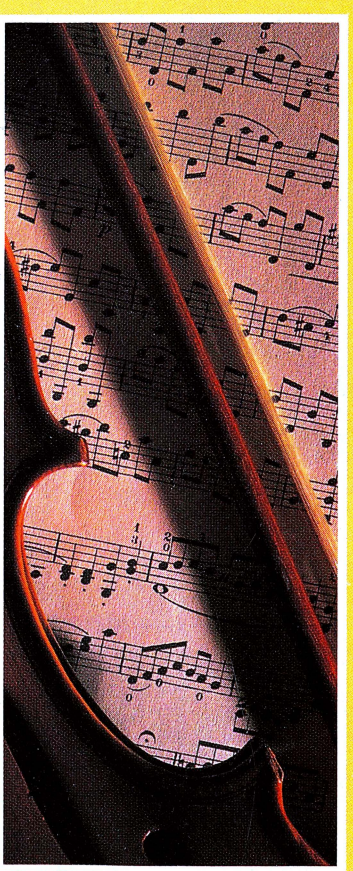
Watch a filmstrip on the life of Beethoven. Discuss the key points of his life. Stimulate a discussion centering around his ability to overcome his handicap, which was deafness. Ask students to cover their ears and imagine the sound of laughter. Have them use the word processor to write a paragraph on what it would be like to not have one of their senses. Ask them to name other people who overcame handicaps. What did they do?

ACTIVITY

The rhythmic pattern of the Fifth Symphony is short, short, short, long. It is the same pattern that is used for the letter "V" in Morse code. Explain that Morse code is a set of signals — dots and dashes — used on a telegraph for communicating with others. Have your students research Morse code patterns. Afterwards, they can recreate these patterns using rhythm instruments, such as drums, triangles, and bells, to send messages to each other.

ACTIVITY

Listen to other movements of the Fifth Symphony. Determine the rhythmic patterns and compare them with the first movement's patterns. Do your students notice any similarities? (For example: The third movement is similar to the first.)



Lesson Plan By
JEFFREY J. SEISE
East Brook Elementary
Park Ridge, NJ

Objectives

- To develop an understanding and appreciation of Beethoven's music
- To integrate computers into the music curriculum

Materials Needed

IBM PC, *Microsoft Works*, printer, record player, recording of Beethoven's Fifth Symphony, filmstrip on Beethoven's life

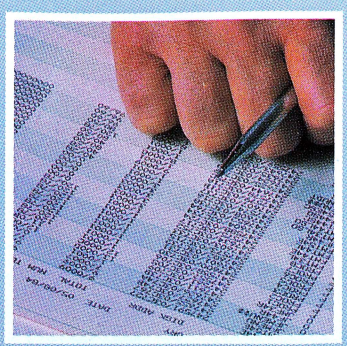
ACTIVITY

Help your students create a composers data base. Begin by having them research at least five composers. Have them set up their data bases with the following information: Name, birth date, city and country of birth, parent(s) name, parent(s) occupation, death date, city and country where died, reason for death, childhood facts, training, related historical events, period in music literature, impact on music, important compositions, references, and comments. Divide your students into groups. Have each group enter a composer's pertinent information into the data base. When the data base is complete, have them analyze it. Are there any similarities between the composers? Have them switch into the word processor to write a short essay comparing and contrasting three of these composers.

ACTIVITY

Explain that there is no logical method to how composers label their symphonic works. For instance, composers rarely number their symphonic works by the chronological order in which they are completed or first performed. Have your students research the dates for each of the nine symphonies by Beethoven, and create a time line using a data base illustrating the relationship between completion and number. When the data base is complete, have your students print it out and mount it in chronological order on one long piece of paper. ■

INTRODUCTION TO SPREADSHEETS



Lesson Plan by
JOY L. BROWNSWORD
Fernwood Elementary
Gulf Islands, Canada

Objective

•To introduce to students the basic concept of spreadsheets, using meaningful data in the form of their spelling marks

Materials Needed

Macintosh computer, *Microsoft Works* spreadsheet and word processor, student data disks, LCD display, and an overhead projector

INTRODUCTION

This series of lessons introduces students to the basic concept of spreadsheet design in a step-by-step approach, using student's spelling marks (or any other grades or marks) as relevant data.

LESSON 1

Introduce students to an imaginary small business, such as Bob's Bikes. Hand out a worksheet that lists the kinds of bikes Bob sells, the cost of each bike, its selling price, and the number of bikes sold of each type during a one-week period. Discuss the term "profit" and how it can be determined, thereby introducing the idea of a "formula." Have students calculate the profit for each bike in Bob's inventory and the total amount made for each bike during the one-week selling period.

After students have completed their calculations, tell them there is an easier and faster way of doing these kinds of calculations through the use of an electronic spreadsheet.

LESSON 2

Display a copy of a spreadsheet on an overhead projector. Label the parts of the spreadsheet and review these terms with your students.

Next, have students open a spreadsheet template file, called Bob's Bikes, that you have previously prepared. Using their Worksheet from Lesson 1, students can begin to learn to enter and clear data. Show students how to move the cursor around the spreadsheet and how to enter formulas. Demonstrate the power of a spreadsheet: automatic calculations.

LESSON 3

For this activity, students open and set up, and enter their spelling marks into a personal spreadsheet file. Before they begin work on the computer, instruct students to plan their spreadsheet on paper. All of their data should be ready to enter into the spreadsheet. Next, tell them to go into *Works* and call up a spreadsheet. Now they may begin entering labels (unit numbers, scores, percents, problem words, etc.), sample data, and formulas for each column. Have them check the results and then, if there aren't any problems, enter their actual data. Remind them to save their spreadsheet under their own name.

LESSON 4

Instruct students to open a word processing file and save it as Spelling Data (followed by their initials). Tell them to keep this file open and open their completed spelling spreadsheet file. Next, have them highlight their spreadsheets, pull down the Edit window, and click on the copy function. Leaving the spreadsheet highlighted, students should return to their word processing file, go to the Edit window and click on paste. Their spreadsheets should appear in their word processing files. Have students save this new file.

LESSON 5

Have students open their spelling spreadsheet and pull down the Chart menu. They should select the option New Series Chart. When the dialog box appears, students should set the default settings to suit their spreadsheet. After the appropriate settings have been made, click on Plot It! This chart will be saved as part of the students' spreadsheet. Once the chart is plotted, show students how the information can be pasted into a word processing file, the same way the spreadsheet was pasted.

LESSON 6

Students will now create a final report for their parents. Have them open a new word processing file and save it as Spelling Report (followed by their initials). Have them type the date, salutation, and any comments they have about their spelling. Have them open their spelling spreadsheet, highlight it, copy it, return to their Spelling Report, and paste it in the file. Have students return to their spreadsheet, go to Chart Menu and Select Definition. They should choose the appropriate chart and Plot It! Then they can go to Edit, Copy, exit chart, exit spreadsheet, and return to their reports and paste. Students should complete their reports and write a closing. Have them save, print, and take a copy of the report home. ■

RUNNER UP

GRADE LEVEL: 6-8

SUBJECT AREA: READING

CREATE YOUR OWN ADVENTURE GAME

INTRODUCTION

Two types of stories in which students find a lot of interest are adventure games (also known as interactive fiction) and the choose-your-own-adventure type of reading in which students dictate the directions which the story will take. By using *Works*, teachers can design custom adventure games which deal with the subject matter currently being discussed in the classroom; they can choose vocabulary and vocabulary levels appropriate to the students they teach; and they can include names and places important and familiar to students in their classes. The result is a "program" which provides appropriate and high-interest reading.

ACTIVITY

The easily designed *Works* macros provides a method for designing adventure games. You can prepare a variety of text screens with the customized information. In each text screen, students read about a situation, problem, or adventure, and then make a choice as to the next step. Here's a possible screen created with the *Works* word processor.

You're in the dungeon of the castle. Two of your friends, Joe and Fred, are locked in a dingy cell. You hear the guards coming. Your Choices:

- **Run to the exit door to the west.**
- **Hide behind a pillar.**

Press F3 to Exit, or F4 to Hide.

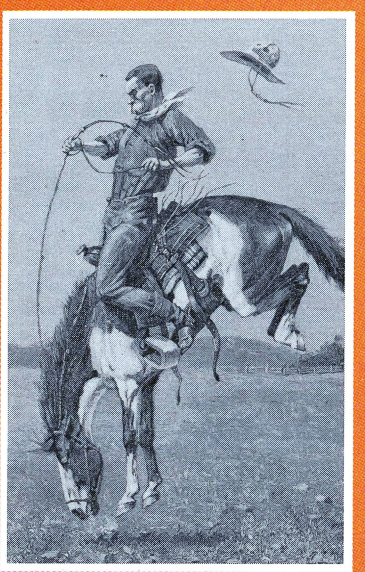
The student makes a choice and presses either the F3 key or the F4 key. A *Works* macro is engaged that closes the current file and opens the appropriate one. Let's suppose the student chose to hit F4. He or she might see a screen similar to this one:

You hide behind a crumbling pillar as the guards enter the dungeon area. It's only a matter of time before they see you. You search all of your pockets for some weapon or tool but find only the hall pass you got yesterday at good old Excel High School. Your Choices:

- **Show the guards the hall pass. It looks pretty official.**
- **Run, and hope the guards are too surprised to catch you.**

Press F5 to Show the Pass, or F6 to Run.

These examples show just two choices per screen, but there is no reason you couldn't have more than two choices. The more choices you provide, the more macros that must be designed.



Lesson Plan by
ROBERT E. MORGAN
University School
Shaker Heights, Ohio

Objective

- To provide students with practice in reading, developing reading interest, and developing reading skills with computer adventure games

Materials Needed

IBM PC computer or compatible, *Microsoft Works* version 2.0

ACTIVITY

In a Choose-Your-Own Adventure book, students choose the course of the adventure at various places in the book. For example, the book might ask: "Do you want the hero to join the flight to Mars or the flight to Jupiter?" If the reader chooses Mars, he or she is told to turn to page 55; if the readers choose Jupiter, they turn to page 72.

This procedure for story telling can be implemented in original stories using *Works* screens and the macro system. Here is a sample screen from a Choose-Your-Own Adventure Story.

Pretend your name is Arnold Frothsclossinger IV. Recently, you graduated from the U.S. Space Training Academy. You've been assigned to help develop a new intergalactic spacecraft, but your father just called to let you know he can get you permanently assigned to a new, experimental base on Mars.

- **Press F2 if you want Arnold to work on the new spacecraft.**
- **Press F3 if you want Arnold to go to Mars.**

The story then continues, with the student making more choices as he or she proceeds. ■

RUNNER UP

WHALE WATCHING

PREPARATION

Tell students they are going to create a data base on whales. Discuss with them the kinds of information they think should be included in each whale record. Elicit from them the following categories: Name of Whale; Scientific Name; Where It Lives; Length; Weight; What It Eats; Description; and three different facts. (Fact 1, Fact 2, and Fact 3). Tell students that these categories are the names of the fields in their Whale Data Base. Let one student open the data base in *Works* and enter the names of these fields.

ACTIVITY

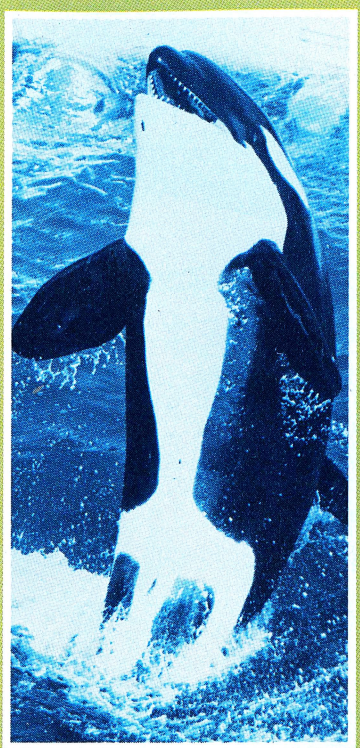
Have students use the *Grolier's Electronic Encyclopedia*, if available, to collect data on whales. Tell them to be sure to collect enough information to fill in all of the categories in the whale data base. Give students time to enter this information into a data base.

ACTIVITY

Once the whale data base is complete, give students a chance to use the data base to compare and contrast information about the whales. Sample questions might include: Which whales live in the Atlantic and Pacific Oceans? How many whales weigh more than 50 tons? What whale has flippers that are 14 feet long? Which whale has the scientific name of Orcinus orca? Which whale is known as the "ocean killer?"

ACTIVITY

Brainstorm a list of descriptive words about whales. Be as creative as you can. Using a complete list, write a poem or song about whales. Write a creative piece about a particular characteristic of a certain species of whales. For example, have students write about the way a Killer Whale's teeth look, or what barnacles on a Humpback Whale remind them of.



Lesson Plan by
TRACEY PAGE
and MARILYN STEVENSON
Amherst Middle School
Amherst, NH

Objectives

- To introduce students to the study of whales
- To give students practice using a data base

Materials Needed

Macintosh SE, *Microsoft Works*; Optional: *Grolier's Electronic Encyclopedia CD-ROM*, *Whole Earth Catalog CD-ROM*

Time Needed

2-5 class periods

ACTIVITY

Have students define the following whale related terms: breach, fluke, fin, pod, krill, baleen, calf. Next, have your students use the word processor to write two descriptive sentences about the Killer, Sperm, Blue, Humpback, and Beluga Whales using the previous whale related terms.

ACTIVITY

Younger students can make a coloring book of drawings for each whale they've studied using *DrawOn* in the word processor.

ACTIVITY

Show the differences in eating habits of three whales using the data base application. Compare the sizes of these three whales with each other in the data base. Write a paragraph describing your comparisons.

ACTIVITY

Use *Grolier's Electronic Encyclopedia* or the *Whole Earth Catalog* to research whales as an endangered species. Make a tape recording explaining why the Blue Whale is an endangered species. Suggest ways that people can help the Blue Whale multiply.

ACTIVITY

Use *Grolier's Electronic Encyclopedia*, *The Whole Earth Catalog*, and a word processor to write a handbook, with drawings, on two different whales and their migrating habits.

ACTIVITY

Whales have been around since prehistoric times. Write a paper using the word processor assessing their ability to survive. Conclude your report with an argument on the pros and cons of whale hunting. Be sure to explain why whales are hunted. ■

PHOTO: MIAMI SEAQUARIUM

INVENT, MARKET, AND SELL

INTRODUCTION

This lesson is designed to give students the opportunity to think creatively, solve problems, and use higher order thinking skills by identifying a need, creating an invention that alleviates that need, and using technology to market and sell that product. Introduce the unit by looking at a few inventors and their inventions to determine the reasons that invention was developed and the process in which it was marketed. Discuss product appeal and how the invention solved a problem or served a particular need.

ACTIVITY

Using the communication program in *Microsoft Works*, access an online service (e.g., GEnie) to create a portfolio containing three popular companies in the Dow Jones report. Have the students create an investment portfolio to track and compare the activity of these companies. Create a spreadsheet and graph to illustrate share, cost per share, and how to track sales growth.

ACTIVITY

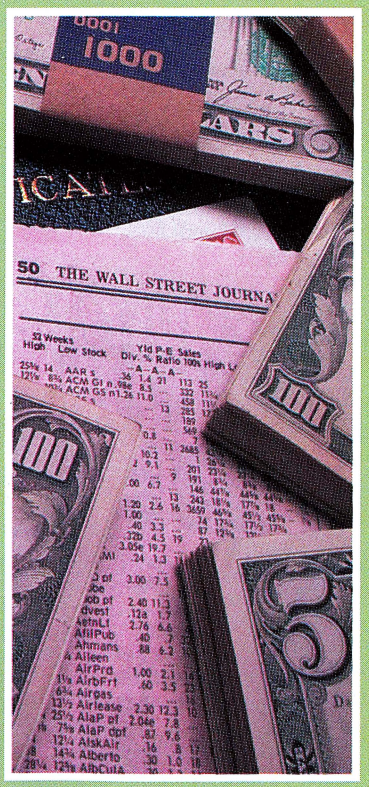
Brainstorm ideas for inventions that fulfill a need or solve a problem. Select the three that appear to be the most marketable.

ACTIVITY

Divide the class into three groups. Have each group develop one of the preselected inventions by making preliminary drawings, word processing a physical description, and creating advertisements using the word processor.

ACTIVITY

Have all three groups join together again to produce a product survey using the word processor. Include descriptions of the three inventions.



Lesson Plan by
LORIE HOMAN
Marion Adams Elementary
Noblesville, IN

Objectives

- To create an invention and develop strategies on marketing the product
- To use a multi-disciplinary approach to problem-solving and creative thinking

Materials Needed

Macintosh Plus or SE, printer, *Microsoft Works*, modem (optional)

Survey a random group of 100 students, asking questions like: "Which of the three inventions do you feel is most important to you? As a consumer, which product do you feel has a pleasing and attractive appearance? Considering importance, efficiency, and appearance, which of the inventions would you purchase?"

Using the information from the survey, produce a graph of projected sales and public appeal on a spreadsheet. This can be done by using the Chart menu and Plot It! in the spreadsheet program.

ACTIVITY

Have each group create a company and a name for their invention and outline a plan to market their product. Then create a small model or full-size prototype of the invention and a formal presentation using *Works* to word process and create overhead transparencies. Next, create letters requesting a patent on individual products.

ACTIVITY

Have the three groups present their products to consumers (students) with the transparencies and information sheets generated with *Microsoft Works*. Give the consumers a pre-determined amount of "money" to purchase shares of the products. Create spreadsheets and financial reports on actual sales. Make a bar graph to compare preliminary projected sales to actual sales.

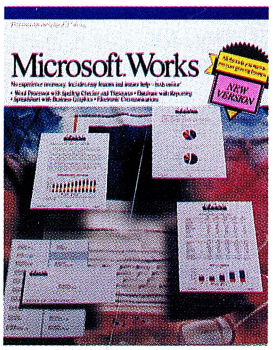
ACTIVITY

Create a data base containing shareholders' names, addresses, and amount of shares purchased.

ACTIVITY

Have each group meet with their shareholders to talk about any improvements or changes that could better the product and ways to increase sales. ■

What good is new generation hardware if your software is still old school?



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PLANNING YOUR VACATION

INTRODUCTION

In this lesson, students are challenged to take an imaginary, 15-day trip through their state, during which they must plan a realistic itinerary for visiting each of ten cities; record all expenses in a spreadsheet; use a prearranged data base to find sightseeing opportunities in each city; and keep a travel journal of their vacation on a word processor.

ACTIVITY

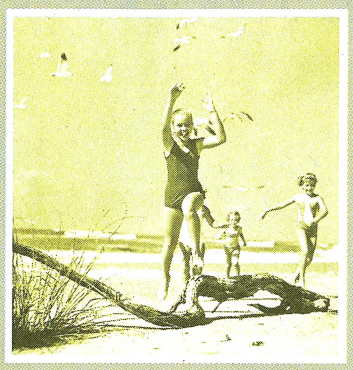
Provide each student with an individualized vacation log that includes ten cities within your state that he/she must visit; miles per gallon that the vehicle to be used gets; and the maximum amount of money available for the trip. As a group, students should study various map symbols and record the coordinates of their cities as indicated in the map's index. Each student then studies his or her map and plots a likely itinerary.

ACTIVITY

Using a large screen projector, show students how to enter formulas and data for travel time, gas used, and cost of gas into appropriate cells in a spreadsheet. Let them enter these formulas into their own spreadsheets and test them using simple test values for mpg, speed, and miles traveled. They should copy these formulas across the sheet. Explain to them that they should follow the previous procedure for the horizontal and vertical summations for the total lines.

ACTIVITY

Prepare a data base with a number of sightseeing locations in different cities. Have one of the fields label what type of interest spot it is, for instance, historical, natural, or a museum. Supply reference numbers for each data record that refer to brochures in the classroom where more detailed information about the site may be found.



Lesson Plan by
EILEEN BACKOFEN
George Mason Jr. and Sr. High School
Falls Church, VA

Objectives

- To provide "at risk" students with a second chance for math literacy through technology
- To apply computational skills to a real-life problem
- To use technology to avoid repetitive calculations
- To improve map skills and state awareness

Materials Needed

IBM PC, *Microsoft Works*, overhead projector and LCD display for computer screen, spreadsheet template, data base, state maps, assorted lodging directories and tourist brochures

Prerequisite Skills

- Knowledge of:
  Distance = Rate X Time
  MPG = (Miles traveled)/(gas gallons used)

Time Needed

5-7 class periods

ACTIVITY

Tell students that they will be keeping a travel journal on the word processor. Each day of the student's "trip" requires an entry into the journal. The entry should record his or her starting point, destination, and the day's planned route. He or she should record the vehicle's mpg, speed, and miles traveled. While enroute to a new city, students should check the vacation data base for sightseeing and recreational opportunities in the area. They should describe this activity in their journal and record the cost in their spreadsheet. The students use directories of major motel chains and campgrounds to find lodging each night, again entering this information in their journal and the cost in their spreadsheet.

As the trip continues and the total miles and dollars spent on sightseeing, food, and lodging accumulates, students must make choices about the days ahead. For instance, what do they do if they're 400 miles from home and have only $15?

ACTIVITY

To summarize their journals have your students use the total lines of their spreadsheets to create a bar graph of daily expenses and a pie graph of expenses by category, presenting a visual record of how their money was spent. ■

DAYDREAM UNIT

INTRODUCTION

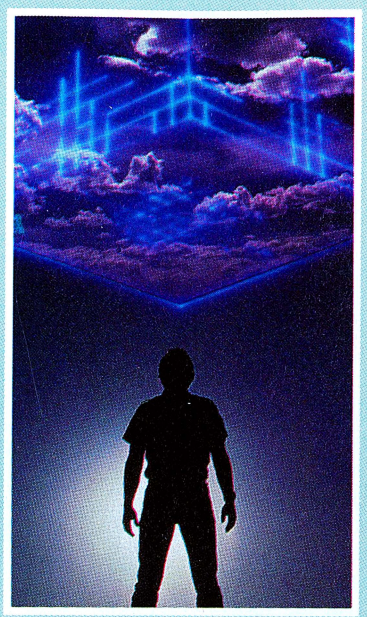
The following lessons or activities are designed to improve writing and critical thinking skills while learning the integrated software, *Microsoft Works*. Each lesson may be done separately, in any combination, or all together.

ACTIVITY

Prepare a template called Specific Detail Exercise that consists of three exercises. In Exercise 1, give students ten skeletal sentences, such as "The student walked into the room." Students must add specific detail to the sentences. (For example: "The brown haired, blue-eyed, six-foot-tall student in a green sweatsuit dashed into his English class.") In Exercise 2, have students cut and paste one of the sentences from Exercise 1 and elaborate that sentence with a few sentences that add more facts and information. In Exercise 3, have students add specific detail and elaboration to the following daydream: "I am walking along the beach with my friend. It is a nice day. We are heading for the pier. There are many things to do there. I wonder what we'll do first."

ACTIVITY

Prepare a template called Sequencing Exercise that lists nine or ten sentences that tell of a brief daydream but which are not in correct order. Then have students read the template and cut, copy, and paste the sentences into a new paragraph, placing the events in chronological order. Next, have them delete any old sentences from the original set as well as the instructions, head the new document by school standards, save on a data disk, and print results for evaluation.



Lesson Plan by
VICKI WILLIAMS
Surrattsville High School
Clinton, MD

Objectives

- To improve writing and critical thinking skills
- To develop interactive communiation skills
- To introduce students to computer applications skills of *Microsoft Works*

Materials Needed

Macintosh Plus, *Microsoft Works*

Time Needed

Two weeks

ACTIVITY

Prepare a template called Daydream Prompt in which students are instructed to write a letter to a friend describing a recent daydream. Upon completion, students will delete all instructions, head the paper by school standards, save the new document on data disk, and print the results for evaluation by the instructor.

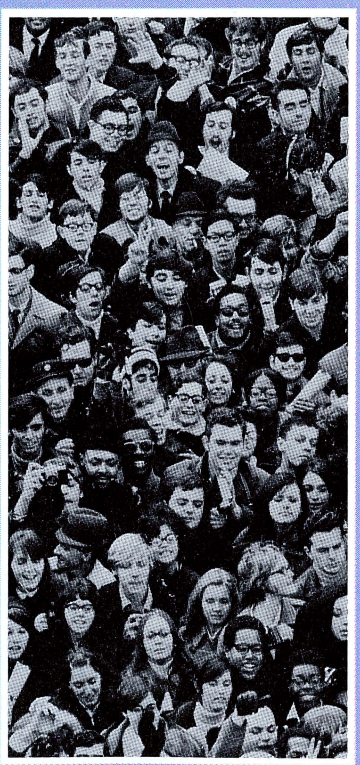
ACTIVITY

Prepare a template called Stereotyping Exercise in which students are instructed to match a list of daydreams or wishes (e.g., become an astronaut; get a raise; go to Florida for the winter; buy a home; meet Santa Claus) with age-group categories (Preschool: Birth to 6; Elementary: 7-12; Adolescence: 13-18; Young Adult: 19-39; Middle Age: 40-60; Senior Citizen: 60 +.) Tell your students that the object of this exercise is to discover if they stereotype people's behavior or not, and to discover their own categorizing of people.

ACTIVITY

Prepare a worksheet that asks students information about a recent daydream, such as: Where were you when you had this daydream? If you were in school, what class were you in? If you were home, what room where you in? How many people were involved in your daydream? Would you describe the outcome of your daydream as positive, negative, or not determined? Also, prepare a data base with the same fields of information. After students have filled out their worksheet, give them time to enter the information into the Daydream Data Base. Then, have students research such questions as: Where do daydreams occur most frequently? What percentage of daydreams took place at school? How many daydreams involved fewer than four people? At the conclusion of the exercise, have student write a two or three sentence conclusion about daydreams based on information entered. ■

MODELING POPULATION GROWTH



Lesson Plan by
SUSAN AMUNDRUD
Big River High School
Big River, Canada

Objectives

- To understand the capabilities of spreadsheets
- To enable students to understand the purpose of modeling
- To build a model of population growth on a spreadsheet, based on certain given assumptions

Materials Needed

IBM PC computer, *Microsoft Works* spreadsheet and charting applications

INTRODUCTION

The concept of population growth in biology lends itself well to the modeling approach to problem-solving. By utilizing the *Microsoft Works* spreadsheet and graphing applications, students can easily investigate population growth under various conditions and assumptions.

PREPARATION

Divide students into groups of two or three. (At least one student in each group should be familiar with spreadsheets.) Discuss the purpose of a model. Tell students that the models they will be working with are mental models. They help simplify a real, complex situation.

Explain that when using models, assumptions must be made about certain things that may not always be true. For example, if a specific model gives results similar to a real situation, then students can conclude that the model works the same way as the real situation. Of course, this conclusion can also be wrong because a different model could also give similar results.

Ask students why spreadsheets are useful when working with models. (Helps you organize information; lets you experiment with different values; lets you try out different alternatives; is fast.)

ACTIVITY

Build the first population model together with your students. For example, start with a hypothetical population of house sparrows on an imaginary island. Tell students that in the spring of 1978, there were ten sparrows: five male/female pairs. Then provide students with four assumptions: (1) Every spring, each pair of sparrows produces ten offspring, always five males and five females; (2) Each year, before the next spring, all the breeding birds die; (3) Each year, all offspring live through the next breeding season; (4) During the study, no other sparrows arrive on the island and none leave.

Build a spreadsheet template to represent this model. Then calculate population size through 1988 and produce a population graph on both normal and logarithmic scales.

ACTIVITY

Explain that sometimes a model gives results that are very different from any observed situation. To make the model more useful, you can change one or two of the assumptions and compare the new results with reality. The closer the results of a model are to the observed situation, the more useful the model is.

Provide your students with assumption changes they can make on their model. Assign each group a different change. (For example, change Assumption 2 as follows: Each year 2/5 of the breeding birds (equally males and females) live to breed again a second year and then die.) They should adjust their spreadsheet model to reflect the changes made. Have students save and print out a copy of this model.

ACTIVITY

Ask students to describe to their classmates how the change of assumption has affected the hypothetical population. Ask them to explain if they think any real population would change in this way. Why or why not?

ACTIVITY

Ask students to use the information in their spreadsheets to create a graph that represents their results. ■

RUNNER UP

USING POETRY TO INTRODUCE WORKS

INTRODUCTION

In this unit, students create a Poetry Booklet consisting of five different styles of poems. In the process, they also learn to use some of the basic features of *Microsoft Works*. The booklet requirements and *Works* skills taught are as follows:

BOOKLET REQUIREMENTS	WORKS SKILLS
Table of Contents	*How to set tabs*
Name heading on upper right hand side of each page	*Justification; tabs*
The Poems (At least one of each)	
Haiku	*Left placement; justification; centering; saving data; manual pagination*
A "Name" poem	*Tabs; margins; formatting*
Diamond Poem	*Centering*
Free Verse	*Manipulation of words and phrases on computer*
Concrete Poem	*Mouse usage; unusual keyboard options*
Each poem on a separate sheet of paper	*Manual pagination*
Each page must have a formal title	*Formats*
Each must be proofread	*Spell checking option*
Each booklet to be printed by author	*Print commands*

Lesson Plan by
CHRIS KERN
Avondale High School
Avondale Estates, GA

Objectives

- To introduce students to word processing in *Microsoft Works*
- To introduce students to different poetry styles
- To help students follow a set of guidelines to produce a poetry booklet

Materials Needed

IBM PC, printer, *Microsoft Works* word processing

ACTIVITY

Talk about the language of poetry. Write the following words and their definitions on the chalk board: simile, metaphor, personification, symbol, alliteration, assonance, allusion, onomatopoeia, and refrain. Provide examples of each one. Then, test your students' understanding by going around the room and asking for examples.

ACTIVITY

Have students work in groups to create and enter a poem into the computer. Have them practice centering the poem and writing a heading at the top of the page. Students should also practice setting tabs, naming, and saving a file.

ACTIVITY

Have students practice changing type styles. Show them how to use the edit and search functions. Let them practice using the copy, cut, and paste commands. Show students how the copy command facilitates the typing of frequently used words or phrases, such as their headings. Next explain how the spell checker works. Insist that they use it every day to check their new work.

ACTIVITY

Show students how page preview works. Explain that this command lets them see what their pages look like before they print. This way, they can see if their poems or headings are not properly aligned or are longer than one page.

ACTIVITY

Explain how students should present their poems in booklet form. Make a list of requirements for their books. For instance, they must have a cover sheet and a table of contents. The table of contents must have a listing of each type of poem that you have worked on and the page in the booklet that it appears on. Next, explain how each page should be set up. Each poem should be centered on a separate page. Each page should have a heading on either the right or left side. Finally, explain that this is one time where looks really count. Explain that they will be evaluated primarily on the appearance (75%) of their work rather than the content (25%). This will help you evaluate their understanding of word processing with *Works*. ■

RUNNER UP

GRADE LEVEL: KINDERGARTEN

SUBJECT AREA: SCIENCE

THE ZOO STORY

DORIS MURDOCH
Webster Elementary School
St. Augustine, FL

Objectives
- To be able to identify visual characteristics and habits of animals
- To identify zoo animals by their written names
- To classify different animals

Materials Needed
Macintosh, *Microsoft Works* word processing, data base, and drawing applications; magazine pictures of animals displayed on posterboard

PREPARATION

Create and display eight posters, each featuring a different animal species. Also, create two data bases, one called the Student Information Data Base, the other a Zoo Animal Data Base, which includes animal name, habitat, color(s), diet, etc. The Student Infomation Data Base will be used to send out permission slips for a visit to a zoo, and to ask for parent volunteers for the trip. Students will use the Zoo Animal Data Base to write sentences at the end of the project.

ACTIVITY

During the first eight days, present the class with large posters (15" x 22") which include magazine cutouts and computer-generated graphics of different animals. Label each animal and its parts (legs, antlers, tail). You can discuss various animal facts by pulling information from the Zoo Animal Data Base.

ACTIVITY

Also during the first eight days students will work on creating a zoo book. Each day, after the initial animal poster discussion, supply students with crayons, markers, scissors, paste and posterboard. Explain to students that they are going to create an animal page that focuses on species studied that day. Encourage students to focus on unusual aspects the animals may have. For instance, students may want to make a close-up drawing of a porcupine's quills or fish's gills. On the ninth day, after all of their drawings are complete, have them make a cover that ties in all the animals they studied. Finally, students can bind their books by using a hole punch and yarn.

ACTIVITY

On days nine and ten, have students take turns at the computer using the Zoo Animal Data Base to gather information about two different species. Next, have them use the word processor to write about each of the species' characteristics. Once they have written their sentences, have students attach them to their books. ■

RUNNER UP

GRADE: 3

SUBJECT AREA: ENGLISH

A "HOW TO" LESSON

CLAIRE BARNETT
Belle Valley Elementary
Erie, Pennsylvania

Objectives
- To develop word processing skills
- To improve sequencing, story writing, and self-expression
- To learn how to work in cooperative learning groups

Materials Needed
Macintosh, *Microsoft Works* word processor, *DrawOn*, video camera and recorder, and a television

INTRODUCTION

Tell students they are going to work together to plan, write, and videotape a lesson that teaches others how to do a specific task. Discuss methods used for such tasks as studying for a test, making a bed, or writing a letter. Talk about the importance of giving clear directions and presenting the steps in correct order.

ACTIVITY

Divide your students into groups of four. Ask them to brainstorm different "How To" tasks, and to choose one task for this project. Have them use the computer to make a detailed list of steps necessary to perform that task. Have each group videotape a demonstration of their "How To" task.

ACTIVITY

Have students prepare a skills sheet for the other students to complete after they have viewed the "How To" video. Have students use the computer to write the steps on the skills sheet in the wrong order. Later, the other children will complete the worksheet, listing the steps in correct order.

ACTIVITY

Have students write and illustrate a "book" showing their "How To" task. Students should begin by taking turns writing a paragraph about one step of their procedure and then illustrating it, using *DrawOn*. The completed pages should be printed and put in correct order. Finally, students can create a cover for their book. To increase computer skills, they should copy a graphic from another disk, and then edit it to fit the cover. When all projects are complete, set aside a few classes to review the videotapes and books. ■

GRADE LEVEL: 3

SUBJECT AREA: SOCIAL STUDIES

RUNNER UP

BEYOND THE CLASSROOM WALLS

MERLE MARSH
Worcester Country School
Berlin, MD

Objectives
- To learn about another community and its people
- To use critical thinking skills to decide how to collect and handle information
- To introduce students to word processing, data basing, and telecommunications

Materials Needed
Macintosh, printer, *Microsoft Works*, display screen;

PREPARATION

Prior to the lesson, have your students select a community they would like to study. Contact the target community's school board for the name and phone number of a teacher whose class may be interested in communicating with your class.

ACTIVITY

Ask the class what kinds of information they would like to find out about the children in the other class and about the childrens' community. Write this information on the chalkboard. Tell the students to come up with some order for the list of information fields. What should come first, second, third, and so on. After the students have had time to examine the fields, call on the students to add, eliminate, and rearrange fields.

ACTIVITY

Next, suggest that students create a data base with these fields. Students will probably respond that they can't fill in the data base without first getting the information about the students in the other class. Suggest they fill out a similar data base about themselves and send it to the students in the other class. Then when they get information back from the students in the other class, they will create a new data base of information about those students.

ACTIVITY

Using the word processor, have students write letters to the students in the class, as well as to the Chamber of Commerce, requesting information about the students and the town.

ACTIVITY

Other activities students can do with their information include: comparing the weather, geography and history of the two towns, making graphs comparing occupations in the two communities, and sending information about the project to the local newspapers in each town. ■

HONORABLE MENTION

Lois Allen
Louisville, Kentucky
Colin Freel
Millersburg, Michigan
Betsy Hardee
Austin, Texas
Everett Kirschner
Newton, New Jersey
Jacqueline Matte
Birmingham, Alabama
Rob McGee
Levittown, Pennsylvania
Judith Naylor
Georgetown, Massachussets
Elizabeth Young
Basking Ridge, New Jersey
Ray Aleliunas
Delta, British Columbia
Masue Ando
Hilo, Hawaii
Eileen Barnett
Cambridge, Massachussets
Evelyn Woldman
Farmingham, Massachussets
Stephen Barsh
Provo, Utah
Judy Bliley
North East, Pennsylvania
James Boyce
Daphne, Alabama
Susie Brown
Hendersonville, North Carolina
Dee Burrell
Mesa, Arizona
Sylvia Carter
Victoria, British Columbia
Meri V. Cummings
Miami, Florida
Barbara Erikson
Houston, Texas
Ralph Ford
Manhattan Beach, California
Mary Frazier
Northfield, Minnesota
Katie Gannon
Phoenix, Arizona
Anna Garrigan
Jeffersontown, Kentucky
Mamie M. Green
Baltimore, Maryland
Laura Jacques
Roswell, New Mexico
Elena Kayak
Whitestone, New York
Lawrence Kenoyer
Snohomish, Washington
Nan Kolbinger
St. Paul, Minnesota
James J. Kulzer
Rochester, Minnesota
Corrine Barrett Kutcy
Winnipeg, Manitoba
Gary Lobinsoff
Victoria, British Columbia
Lynn A. Madsen
Gilbert, Arizona
Billy Martin
Benson, Arizona
Walter J. McBride
Lincolnton, North Carolina
Margot McKague
Ganges, British Columbia
Charles McKinney
Goshen, Kentucky
Karen Meyer
St. Louis, Missouri
Shirley Miller
Genesco, Illinois
Barbara Misiaszek
Rochester, New York
Elizabeth Nodurft
Lexington, Kentucky
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Rochester, New York
Bryan Olson
Maple Grove, Minnesota
Joyce Perkins
Anthony, New Mexico
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Van Pratt
Penticton, British Columbia
Mary Lou Purpura
Jean Rappaport
Verona, New Jersey
Gail Reilly
Phoenix, Arizona
Terry O. Sheeran
Louisville, Kentucky
Thomas Sipe
Greensburg, Pennsylvania
Joan St. Amant
Soldier Pond, Maine
Joanna Scerbo
Pompton Plains, New Jersey
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COPY

THE • INSERVICE • WORKSHOP • Handout #6 •

COMPUTER SCHEDULE

DATE _____ **TEACHER** _____

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:00 - 8:30					
8:30 - 9:00					
9:00 - 9:30					
9:30 - 10:00					
10:00 -10:30					
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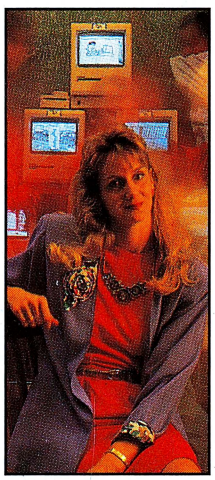
4:00 - 4:30					

INSTRUCTIONS: Be sure to block out times when no computer access will be allowed (lunch, art, phsyical education, etc.) Then assign time slots to your students, trying to leave open times for teacher use with large or small groups and for special needs and rewards. HELPFUL HINT: Make copies of this original. Use the copies, and put the original away so you will always have it from which to make copies.

Telecommunications In the Classroom:

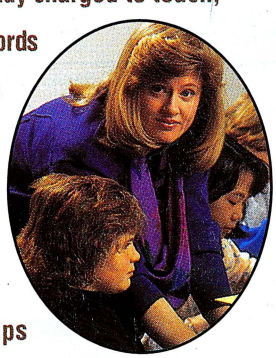


Editor's Note: In this special report on telecommunications, we profile four teachers who differ in many ways: they are from vastly different geographic areas of the country (Oklahoma, New Jersey, Hawaii, California); one teaches in a Catholic school in the southwest; another teaches special education in a middle-class suburb of New York City; another teaches in a school located in the middle of a sugar cane plantation on an exotic island; and another teaches in a district that has the country's largest population of children of migrant farm workers.

Yet despite their differences, they all believe strongly in the value of telecommunications in education. Among their shared beliefs:

FOUR TEACHERS' STORIES

- telecommunications can be used to teach the curriculum; it does not have to be something "in addition" to what teachers are already charged to teach;
- telecommunications motivates children to learn because, in the words of one teacher, "It provides kids with an audience; it gives them a reason to write";
- telecommunications promotes professional growth for teachers; as one teacher put it, "It breaks down the isolation of being in the classroom";
- telecommunications helps teach children how to be citizens in the world of the future, because it gives them a skill they will be expected to know, and also because it helps children understand, in one teacher's words, "that the world is our community."



By Therese Mageau

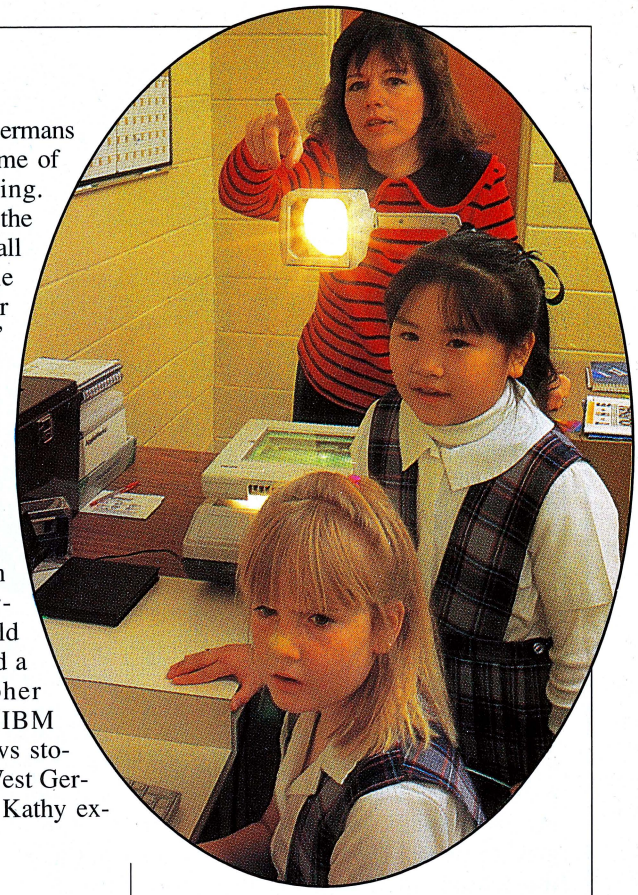
What follows are these teachers' stories: how they got started, some of their fascinating, curriculum-based projects, their tips for implementing a telecommunications program, and why they stay committed to keeping telecommunications alive in their classrooms, schools, and districts. We think you'll find their stories inspirational.

Kathy Rock, Tulsa, Okla.

From West Berlin to Beirut... Bringing the World to Students

"I feel very happy that they are F R E E n o w ... . There have been very big parties 'cause they know that they can come to the 'west' and home every time if they want...Yes, me, I have relatives in GDR [German Democratic Republic]...We brought them fruits they couldn't get in GDR, clothes and food. You must know that they cannot get what they want. They have no fruits, sometimes not enough meat... But now we invited them to visit us the next time..."

At the time the Berlin Wall was coming down, Kathy Rock's students at Sts. Peter and Paul School in Tulsa, Okla., received many letters like this over their computers. "We were in daily contact with children in West Berlin," reports Kathy. Through the AT&T Long Distance Learning Network, Kathy's students received letters from West Berlin students that discussed employment problems incurred from opening up the wall, the lives of people who escaped into West Germany before the wall's opening, West Berlin children's opinions about East Germans moving to their country. Some of the letters were very moving. "They talked about going to the wall late at night and seeing all the candles and hearing the singing and seeing their moms and dads crying," says Kathy.

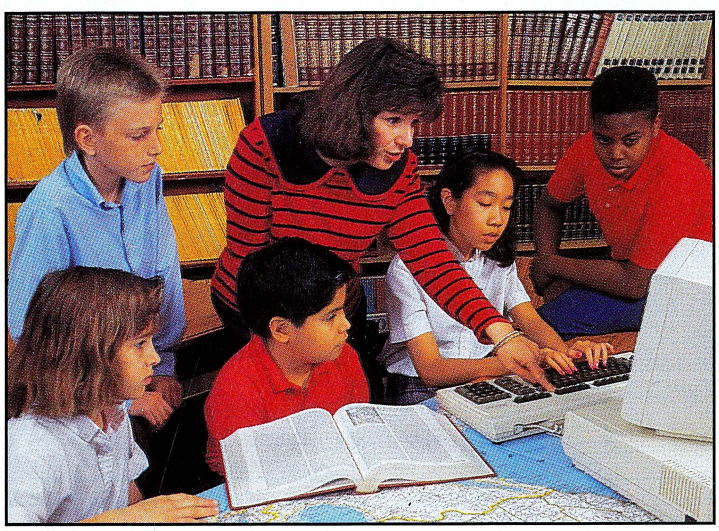


Kathy's students heard news of the Berlin Wall through professional sources as well. The X-Press information news exchange sent her lab up-to-the-minute stories from seven different news services from around the world via a cable TV hook-up and a device called an infocipher hooked up to one of her IBM PCs. "I could print out news stories in English from both West Germany and East Germany," Kathy explains.

Interactive Simulations

"We have brought the world to our children," Kathy believes. And not just the western world. Last year Kathy and some of her eighth grade students took part in a worldwide telecommunications conference on the Middle East, sponsored by Interactive Communications and Simulations of the School of Education at the University of Michigan. Participating schools were assigned roles of real-life people in current middle eastern politics (Kathy and her students represented the Christian Lebanese leaders) and were charged with "making peace by finding compromises with all the other participating countries."

The Tulsa participants had to create a plan of action based on their country's needs and their understanding of the balance of power in the region. They made predictions about the outcomes of their plans, wrote press releases, did research, and communicated with other countries by following international protocol.



Kathy Rock and her students call up news stories from around the world, via their computer, to learn about events in East Germany.

Offering a Choice of Networks

Even the kindergartners at Sts. Peter and Paul are getting involved in worldwide communications. Through the Chimo Network (an Indian word that means "friendly trade"), her students are doing a cultural exchange with some Catholic schools in Canada, or, as Kathy puts it, "a kindergarten version" of a cultural exchange, which includes conducting a survey of favorite ice cream flavors.

Kathy believes in using a variety of networks because, "We're looking for different things to accomplish in school, and each network offers something unique." Offering a choice is especially important for encouraging more teachers to participate. "Because this is a new thing, because none of us learned this in college, it takes a while to get the teachers interested," says Kathy. "In the beginning, it's just another thing to fit into their day. We've got to find different projects that are going to excite each individual teacher so that they're willing to see how it can work in their classrooms."

Carol James, North Brunswick, N.J.

Telecommunications, Special Role for Special Education

The idea of teaching telecommunications to special education children might have daunted some people, but not Carol James, a former teacher of neurologically impaired fourth, fifth, and sixth graders at the John Adams Elementary School in North Brunswick, N.J. "You find that special ed. kids frequently don't ever leave their town or state," says Carol, who is now one of two elementary computer lab teachers for her district. "I thought telecommunications would be a great opportunity for my students to expand their whole horizon."

Carol applied for and received a local district grant to start a modest telecommunications pilot program with her students. The pilot "grew beyond our expectations," says Carol. It in fact grew to the point where "every class in the school, including the preschool handicapped, participated in a telecommunications conference last year."

Carol James and her students goose-watching in North Brunswick, N.J. Carol's students helped plot the migration of Canadian geese.

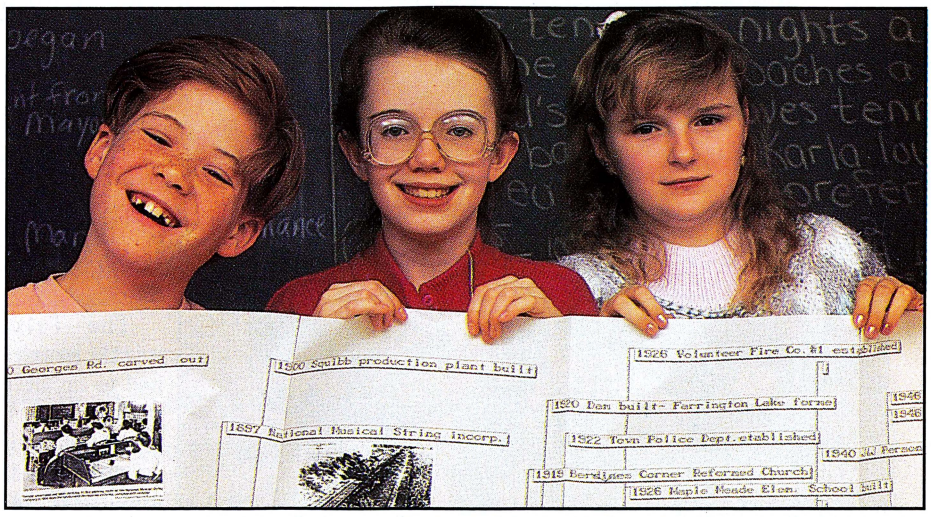
The Great Spring Vegetable Grow

Over the MIX network (McGraw-Hill's now defunct network which has more or less been replaced by MECC's Iris Network) John Adams Elementary participated last year in the "Great Spring Vegetable Grow," where classrooms around the country competed to grow the biggest vegetables and in the process learned various science skills such as measuring, plotting growth on graphs and charts, and experimenting with variables. Carol's students' job was to collect growth data from each class every week. Not surprisingly, considering Carol's students' infectious enthusiasm, John Adams Elementary won a nationwide competition for the heaviest radish, an honor the children still like to boast about.

First graders at Carol's school participated in a nationwide plotting of the migration of Canadian geese as they traveled the country. Little did the students know how pivotal their role would be in the siting process. Apparently, the geese love to congregate on the front lawn of the world headquarters of Johnson & Johnson, which is only a few miles away from John Adams Elementary. "We'd get messages from other schools saying, 'Where are the geese? We haven't seen any.' And our kids would respond, 'That's because they're on the lawn of Johnson & Johnson!'"

Carol's special ed. students got to travel from the East to the West coast—telecommunicably, that is—courtesy of some mainstream seventh grade students in Oregon. The Oregon students were charged with taking Carol's students on a vacation from the East to the West coast. The seventh graders sent Carol's students an itinerary and Carol's students responded in "a language experience format about how they followed the itinerary; for example, 'We got to the top of the mountain, but so-and-so got sick from the altitude.'"

The days Carol's students received an itinerary, "they were ready with maps, atlases, travel guides, encyclope-



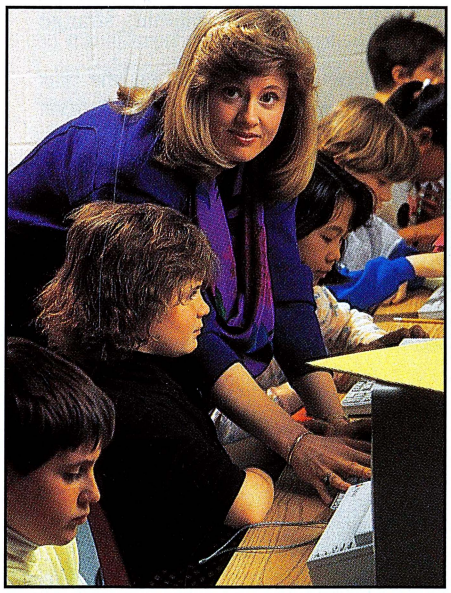
John Adams Elementary students proudly display the timeline of the history of their town they made. Students researched and collected the data during a telecommunications conference on "teleconnected cultures" sponsored by the Iris network.

BARD MARTIN

dias. They would *run* to the library." They learned about concepts such as inches per mile, altitude, the Continental Divide, even hydraulic dams. Carol reports that "it was one of the best examples of learning across the curriculum—math, language arts, science, history, geography."

Carol's students learned about their town history through an Iris network (MECC) conference entitled "Teleconnected Cultures." Using the library and conducting oral histories with town citizens, students collected information which they input in a data base and then

"Our students were motivated to learn LOGO so they could send out their own programs."



shared with a culturally different school with which they had been matched. (They then used the data to create a town history timeline they gave to the mayor!) This project inspired the sixth grade class to research their families' immigration histories to share with a school in California

Perhaps one of the most successful conferences was the "Logo Pen Pal" exchange. The conference—which took place with a computer magnet school in St. Paul, Minn.—functioned like a simple pen pal exchange, but with a twist: students shared Logo programs instead of letters. This was particularly helpful

Helping Students Become Competent Researchers:

Using Online Data Bases in the School Library

"Like many adults, I knew nothing about computers," recalls Joyce Sherman, the educational media specialist at Brunswick Acres School in South Brunswick, N.J. "I remember that once a month instead of a faculty meeting we all sat down at computers and tried to learn. I was the worst pupil," she adds laughing.

Worst pupil or not, when Joyce was approached by the district's computer coordinator to put a computer in her library and become part of the Dow Jones News Retrieval project, she reluctantly agreed. "Since then," says Joyce, "I've been an enthusiastic supporter. If I can do it, anyone can."

Dow Jones News Retrieval is an online network that provides access to data bases covering everything from the federal filings of the Security and Exchange Commission to movie reviews. Data bases for education include an online encyclopedia, news wire service, book reviews, newspapers, and nationwide weather information.

Joyce includes teaching how to use the data base retrieval service as a required part of the library skills curriculum she's designed for her K-6 school.

"What I consider my curriculum," says Joyce, "is to make students as competent researchers as I can before they leave the school. I want them to understand as we go into a whole new age that there are different ways of getting information, not just from print. The aim of our whole program is to make kids comfortable finding things for themselves, to help them become independent learners."

Below are some of the online data base and information resource services available to educators:

Classmate
Dialog Information Services
3460 Hillview Ave.
Palo Alto, Calif. 94304
(800) 334-2564

Users have access to 85 general interest data bases focusing on newspapers and magazines, general science, social studies, and the humanities. Curriculum materials include workbooks, teacher guides, activity masters, transparencies, and a video. No subscription fee or monthly charge, just connect time. The phone call is free.

Dow Jones News Retrieval
Box 300
Princeton, N.J. 08543
(609) 452-1511

Allows access to 45 data bases of business, financial, general news, weather, movie reviews, and an encyclopedia. An educator's guide contains a variety of lesson plans to supplement the service in a number of subject areas. A tutorial is also available. Flat monthly fee with unlimited connect time for most data bases.

X-Press Exchange
X-Press Information
Services Ltd.
Regency Plaza One
4643 South Ulster St.,
Suite 340
Denver, CO 80237
(800) 772-6397

Provides "real time" news service from all over the world, including seven foreign press wires translated into English (information is also available in French and Spanish). One up-front charge for kit, which includes an "infocipher" (a receiver that takes signal off a cable line and inputs it into a personal computer). Discount available to schools.

for Carol's students who were unfamiliar with Logo. "The St. Paul students would write my kids saying, 'You're just learning Logo? You're going to love it! When you get to the lab next time, try this.' And they'd give them a program they'd written," says Carol. "Our kids were so excited and motivated to learn so that they could write their own LOGO programs to send out to Minnesota."

Buddy Systems Within the School

This kind of mentor system took place within Carol's school as well. Carol set up "buddy classes" where sixth graders team up with first graders, for example, to help them type their telecommunications correspondences. "A first grader could take an entire day to type a simple letter," explains Carol. "Not only does this system make the sixth graders feel good about themselves, it makes the first graders feel like they're connected."

The entire 1988-89 pilot was an immeasurable success, so much so that it was recognized by the state of New Jersey as one of the 10 best programs to exemplify the integration of technology into the curriculum. Carol's name was sent to the Computer Learning Foundation where winning projects from around the country will be compiled and disseminated.

Making a Community

It's clear from Carol's stories that telecommunications greatly benefits students, but Carol advocates telecommunications for the teacher's benefit as well. "Teachers get so stimulated and motivated by what other teachers are doing," says Carol. "Teachers tend to function in a cubicle. You're in your classroom. You might not even know what another teacher down the hall is doing. Yet here you have the opportunity to correspond with teachers from various parts of he country. I have seen with each exchange the work get better and better and better."

Carol has also seen her school become closer as a result of telecommunications projects. "What it does for the whole building is give us all such a sense of participating together," says Carol. "Telecommunications brings teachers together. It brings kids together. It makes for a community."

Maylene Siu, Kaipahu, Hawaii

Learning To Do Science... Over the Phone Lines

Maylene Siu's involvement with telecommunications took a fairly standard course: her students started out with pen pal letters, exchanging simple correspondence with children from other schools. Then she had them exchanging riddles and answers, "to practice getting on and off line," she explains. They then progressed to telecommunications research projects: using a data base to find information and then reporting it on-line to research partners at other schools.

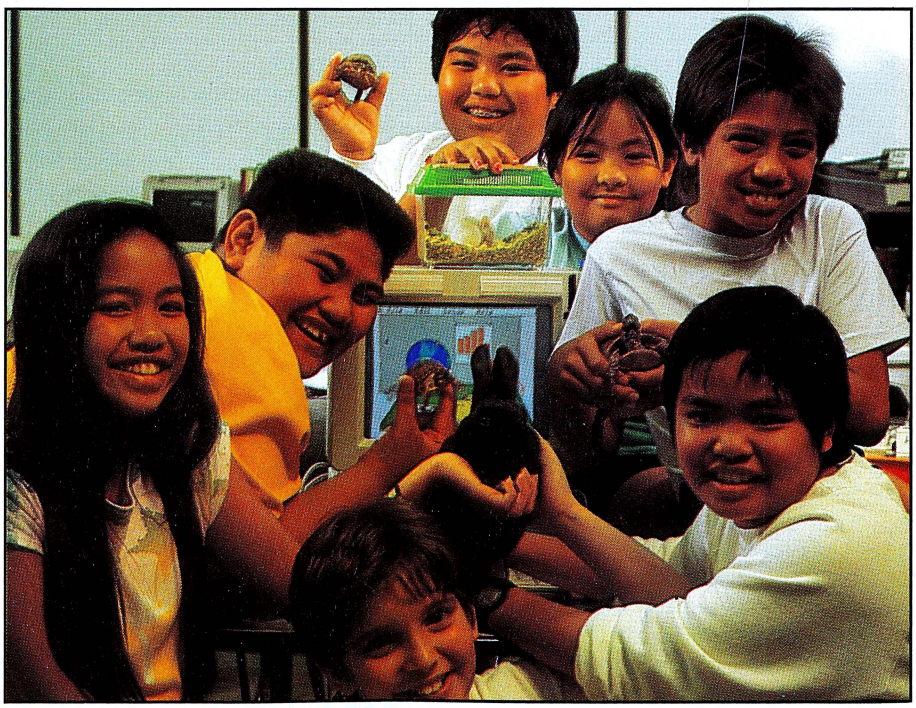
What was unusual about Maylene's first telecommunications program, however, was that her K-6 students at Honowai Elementary School, just outside Honolulu on the island of Oahu, communicated not with students in Alaska or outer Mongolia, but with the high school students in the same town.

"We were essentially adopted by the local high school," says Maylene. "It was a mentor program where my students could try out telecommunications while gaining an understanding of what high school life is like." Each of Maylene's students had a high school partner they interviewed about life in high school. Eventually the younger students got to visit their partners at the high school and see their telecommunications and computing lab.

Starting at an Early Age

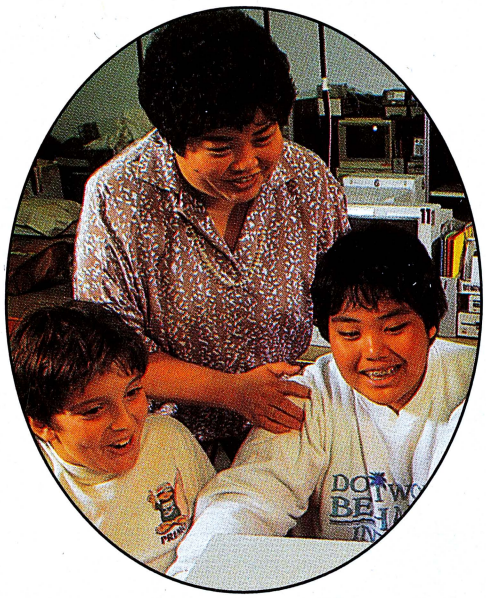
"It's important to expose children at an early age," believes Maylene. "Telecommunications is part of society and children become used to it when they're exposed to it. When my students went to the high school lab, they were able to say, 'Oh yeah, I know about this.' It wasn't something strange to them."

Maylene admits that when she was first learning about telecommunications



Honowai Elementary students and their pets. The students collected data on the kinds of pets in their community to share with other schools across the country.

CARL SHANEFF



Maylene Siu shows her students how the computer can act as a science reseach tool.

it seemed very strange to her. "I was just like a child. How can information be transferred over the telephone lines, I wondered? Then we got a faster modem and it became a little more fascinating because the data was transmitted so quickly I couldn't read it fast enough on the screen."

Her fascination led Maylene to agree to participate in a pilot for National Geographic's *Kids Network,* a telecommunications program, sponsored by the National Science Foundation and now commercially available, that teaches elementary students science via a worldwide network.

Hands-on Science Projects

Kids Network, or *Kids Net* as it is referred to familiarly, is a unique program that combines an exploratory approach to the teaching of science (stressing skills such as original, hands-on research, careful observation, accurate recording and reporting of data, and drawing conclusions) with geography skills (such as map reading and plotting), and telecommunications. The first unit Maylene's school participated in, entitled *Hello,* introduced students to data collecting and reporting by having them catalog their class's pets, sharing and comparing their information nationwide, and drawing conclusions about how geography might play a role in the kinds of animals students have for pets.

The second unit, *Acid Rain,* had students constructing rain collectors, using pH papers to test the rain water for its acidity, sharing and comparing their information with other schools from around the country, and again, drawing conclusions about the role geography might play in influencing the acidity level of rain water.

One of the great values of the project, according to Maylene, is that it helped her students see how the computer can be used as a science tool. "It was the first time they did science-related activities using the power of the computer," she reports. "It is a very good utilization of the whole system, because it helps a child not only understand telecommunications but how the computer can help them understand information they've collected. For other science activities, my students began to ask me, 'Since the computer helped us graph the acid rain, could it also be able to take my data now?'"

Maylene shares the *Kids Net* philosphy of learning by doing. She gives her students complete control over their telecommunications and computers. "I don't do any of it at all , except to instruct with open-ended questions like, 'What do you think will happen?'"

Building Local Communication

Maylene is implementing a *Kids Net* kind of program on an island basis, using telecommunications to have local students compare data about pets. In fact, much of Maylene's telecommunications emphasis has been on improving communications at a local level. This may seem odd to people from other areas of the country who might assume that schools in Maylene's small island community would easily communicate with one another, but before telecommunications, Maylene reports, that wasn't necessarily so.

"Before, to talk to a teacher at another school, you had to wait to get a call through, which is always a problem because you call, leave a message, get a message back in return"—in effect, play telephone tag all day—"or you sent a note via the district mail truck. Now we use telecommunications among our teachers. We put the message on electronic mail and people can correspond daily. More and more teachers are getting on line," says Maylene. The end result she says, is that "communication between schools is much better."

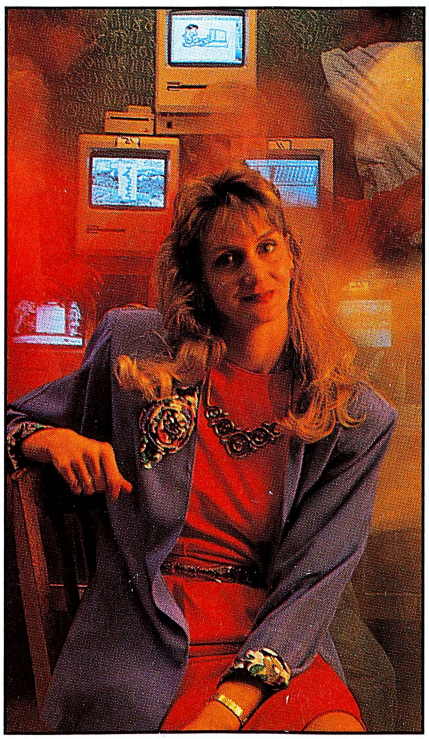
Yvonne Andres, Oceanside, California

FrEd Mail Means Free Access to Fresh Ideas

Hundreds of FrEd Mail users around the country know her as OCNSIDE SYSOP. Others know her as the editor of *FrED Mail News*. She is also known (by people in the know) as one of the original developers— along with Al Rogers and Nick Sayers— of FrEd Mail, the utterly affordable educational network. (FrEd Mail stands for "Free Educational Electronic Mail.")

But if you think Yvonne Andres—FrEd Mail "systems operator," unflagging reporter of FrEd Mail happenings, designer of FrEd Mail curricular projects, and all around FrEd Mail guru-enthusiast—started out as a computer hacker, think again.

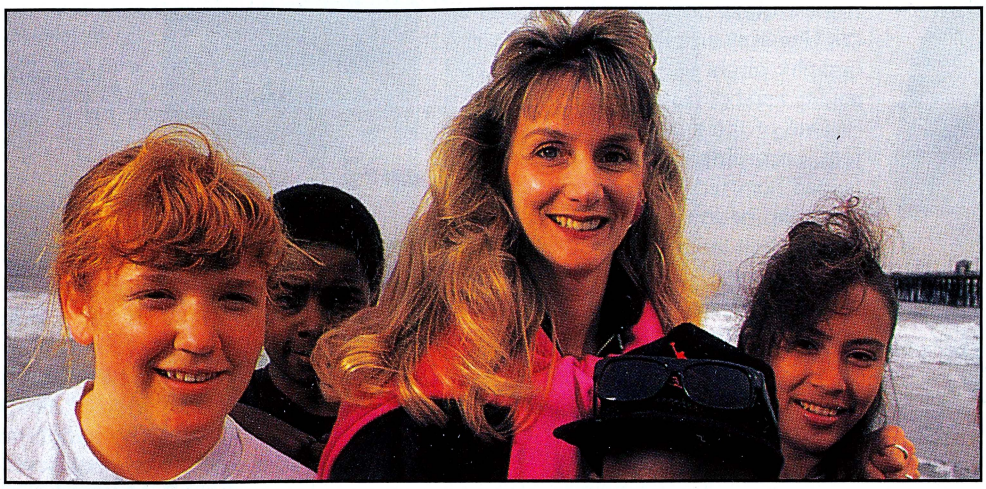
"My background is psychology and sociology and I was mostly an English teacher," says the Jefferson Jr. High



Yvonne Andres of Jefferson Jr. High in Oceanside, Calif., is also known as OCNSIDE SYSOP to FrEd users.

MARSHALL HARRINGTON

"To be really honest, I'm not sure I would still be in teaching if I hadn't gotten involved in telecommunicating."



Yvonne Andres finds that student enthusiasm is greatly increased when she incorporates telecommunicating projects, such as Kid Connections, into her classroom.

School, Oceanside, Calif., teacher. Yvonne had never even touched a computer until several years ago when someone donated an Apple II to her class of gifted sixth graders. "It was amazing to me to see the impact that one measly computer had on the students. They were so interested and so motivated that we expanded to a lab." In the process of expanding, they heard about how "computers could communicate with other computers. It was a real interesting idea at the time," says Yvonne. "And that's what did it. To be really honest, I'm not sure I would still be in teaching if I hadn't gotten involved with telecommunications. This is something that's exciting everyday."

How FrEd Mail Works

How FrEd Mail works is also something that's exciting every day. As an example: suppose Yvonne's school wants to call a school in Troy, Mich. In the middle of the night, when phone rates are at their lowest, Yvonne's Mail would call SDCOE (San Diego Computer Online Educators). FrEd Mail does it on its own; no one has to be there to do the dialing. The SDCOE, which works from grant money and therefore can afford to make longer distance calls, would then dial another FrEd Mail location (preferably another agency with a grant), perhaps in Wyoming, who would then dial another nearby FrEd Mail location. This piggyback calling system continues across the county until the destination school is reached; for the most part, all the calls made are local or near-local calls, and grant money is spent on the longer distance calls. When the Michigan teacher comes in the next morning, Yvonne's message is waiting for her. Yvonne' s school only paid for the cost of calling San Diego in the middle of the night...pennies.

Kid Connections

But what's perhaps most exciting about FrEd Mail is the array of educational projects that Yvonne and other FrEd Mail users have designed, including The Soviet-American Space Bridge, Acid Rain, and the Idiom Project.

Yvonne's most current project is Kid Connections, a history/social science interactive network sponsored by the California Technology Project and based on the philosophy that "using technology will provide students with learning experiences that could not be duplicated within the confines of their own classrooms." Among the Kid Connections projects in the works: Commercially Speaking, where students survey and compare television commercials from different areas of the country; Original Opinions, where students exchange essays on contemporary, controversial issues; and The Experts Speak, where one group of students assumes personalities of non-living historical figures and another group interviews them to determine their identities.

(Yvonne is also adapting Kid Connections to work on other networks, such as Prodigy, AT&T Long Distance Learning Network, and CSU [California State University] Net.)

Yvonne finds that student enthusiasm is at an all-time high when she adapts something she's already teaching as part of the curriculum into a telecommunications project. "Students are much more motivated when they're going to be writing to another group of students and if they know they'll be getting feedback from them," says Yvonne. "They pay more attention to their spelling and punctuation and how they express themselves."

She also finds that, by and large, American students are not that knowledgeable about the larger world. She cites as an example how her students were communicating with Australian students, and the Australians wanted to hold a conference on world problems. "Our students couldn't even begin to talk about world problems," Yvonne says. "Most students, especially up until high school, don't have that much knowledge of the outside world. Their whole focus is on what's happening locally, in their school and community." Telecommunications gives students "building blocks" with which they can construct their world knowledge.

Having both a perspective on the rest of the world, as well as an understanding on how to communicate globally is crucial to today's students, believes Yvonne, because "electronic communications will become a necessity for business and education very soon as transportation and new buildings costs increase." These factors will affect how people work: "People will be telecommuting," Yvonne predicts, "working at home and commuting electronically." Therefore, giving students a background in telecommunication skills is imperative. "Any kind of base that you can give kids that they can use in their futures is important."

Therese Mageau is an Associate Editor for Teaching and Computers and Electronic Learning.

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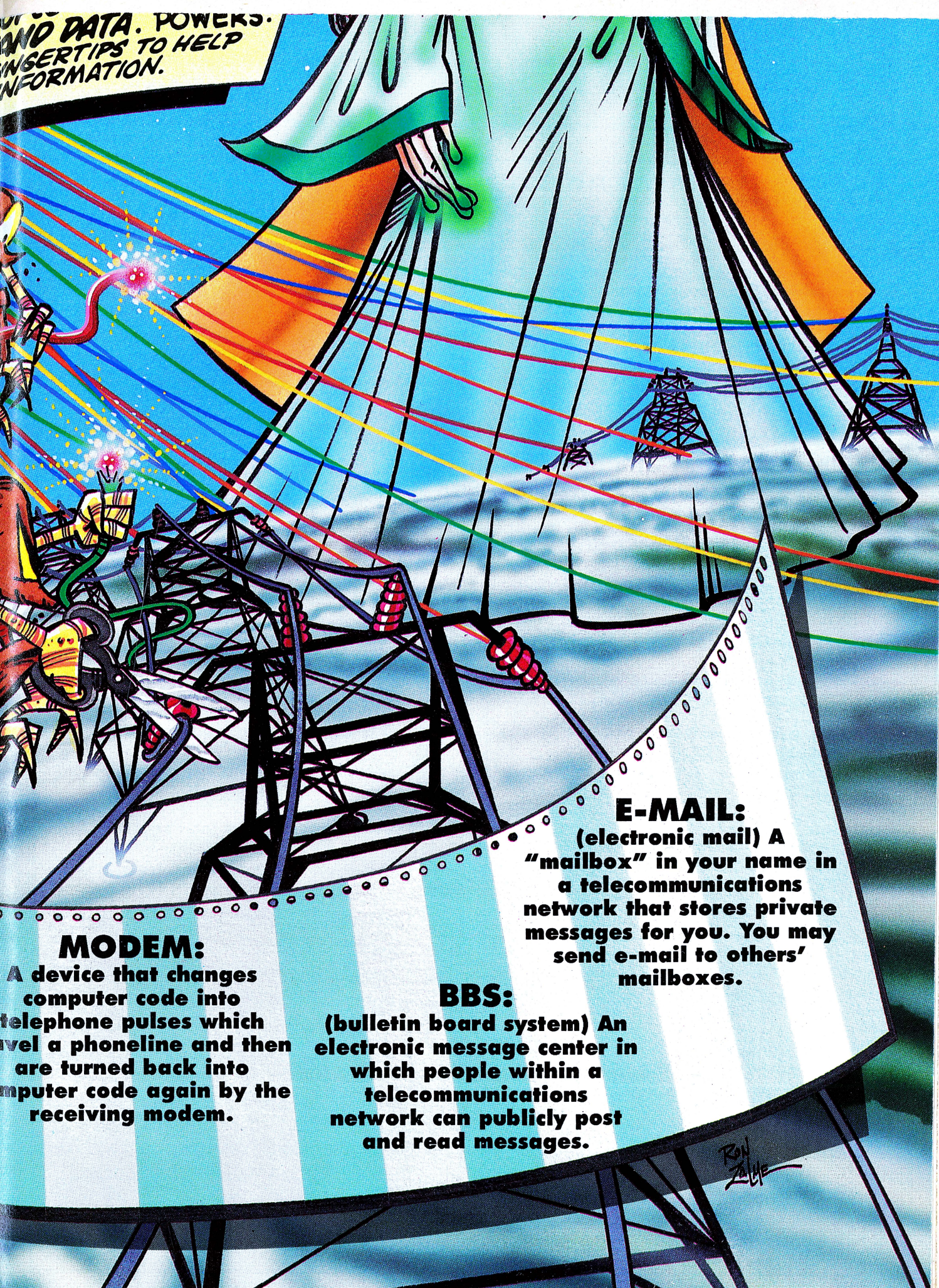
NO DATA. POWERS.
AND INSERTIPS TO HELP
INFORMATION.
E-MAIL:
(electronic mail) A "mailbox" in your name in a telecommunications network that stores private messages for you. You may send e-mail to others' mailboxes.
MODEM:
A device that changes computer code into telephone pulses which travel a phoneline and then are turned back into computer code again by the receiving modem.
BBS:
(bulletin board system) An electronic message center in which people within a telecommunications network can publicly post and read messages.
RON LYLE

CODE WORDS...

TELECOMMUNICATION:
Two or more computers "talking to each other" over long distances with the help of a modem, software, and a phoneline.

NETWORK:
A group of computers in different geographic areas "talk" to each other about common interests.

UPLOAD & DOWNLOAD
To send or receive a program or text file.

Text by Janice Sork
Illustration by Ron Zalme
Teaching and Computers
"Computer Crusaders" Super Page Series
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SCHOLASTIC

TELEC
WHERE THE
TELETRON
MASTER TECHNICIAN OF TELE
POWERS: USES HIS MULTI-
CONNECT TEACHERS AND
AROUND THE WORLD WITH
SPEED.

TEACHING

By Janice Sork and Louise Orlando

COMPUTER CRUSADERS SUPER PAGE SERIES

Each of the six Super Pages in this series features "Super Heroes" especially created to draw students' attention to an essential computer application. September's Super Page explored word processing, October emphasized graphics, while Nov./Dec. focused on data bases. Jan./Feb. explored desktop publishing and March/April focused on spreadsheets. May/June will now address telecommunications.

Each Super Page is backed with a teacher's guide full of management tips and a set of activity cards through which kids master computer applications skills and complete a series of curriculum-integrated computer tasks.

MANAGEMENT TIPS

SUPER HEROES BULLETIN BOARD

The Computer Crusaders Super Page can be a centerpiece of a year-long bulletin board display. Here's how to assemble the bulletin board..

1. Create a cut-out letter headline reading "Teletron Transmits Data to Cosmic Communicator."

2. Make a pocket chart for your students' Super Hero Passports.

3. Purchase or create a grid tagboard for the record-keeping chart.

4. Staple up May/June Super Page.

5. Mat open space with colored construction paper for displaying student work.

6. Photocopy, cut apart, and laminate several sets of the activity cards, below. Place these in a pocket on the board.

7. Experiment with your modem and software following setup instructions in manuals. (Note: If you have an interface card, the dip switches must be set for telecommunications.) Review expectations with students, then demonstrate steps to log on and off. It is helpful to provide a simple chart of this procedure near the computer for student reference.

Some software programs have telecommunication features. You may want to have students utilize a simulation program before actually going online. Set up data disks for students. Store software together in pockets on the bulletin board or near the computer.

STUDENT SUPER HERO IDENTITIES

If they have not already done so, have your students make up a super hero name and identity for themselves (including strengths and weaknesses) to use in conjunction with this last Super Page in the series. For this Super Page, the student super hero identity will be used for the Super Hero Passport and several activities.

SUPER HERO PASSPORT

to the Realm of Telecommunications

Earth Name: _____

Super Hero Name: _____

- ◯ **Super Simulator**
- ◯ **Bold Telecommunicator**
- ◯ **Project Technologist**

Signed,
Teletron

SUPER HERO PASSPORTS

Make a photocopy of the blank passport above for each student. Set up hardware and software for your telecommunications station sharing your expectations and rotation system with students. It may be helpful to have a proficiency check before students dial online. Introduce or review your chosen software programs, and telecommunication code words: modem, baud rate, BBS, sysop, log-on, bulletin, upload, and download. Demonstrate booting of telecommunication or simulation software. Most simulation software requires that you enter students' names previously into the program. Then it gives you a listing of passwords that you should keep on hand in case someone forgets his or her password. It is also helpful to lead a discussion about your expectations of appropriateness in wording messages that you send to friends, including the responsibility of not sharing your password with others.

There are three achievement levels for students to work toward. Level I denotes mastery of telecommunication code words and use of a simulation program. Level II is for students who are able to log-on to a BBS service or another computer, move through the menu, and log-off appropriately. Level III is for students who participate in a class telecommunication project. When students show mastery of these skills, mark or add a sticker to the achievement boxes listed on each passport.

GRID CHART RECORD-KEEPING

The grid chart will help you keep track of student progress on the activity cards. List the activity cards along one axis of the grid, and add your students' names on the perpendicular axis. Paste-on stars, stickers, or a simple felt pen mark can be added as students complete the computer activities.

COOPERATIVE LEARNING ACTIVITIES

Many of the activities below are designed for cooperative learning groups of two to five students. When forming these groups, make sure that each group has a representative mix of abilities, strengths, and weaknesses, and that each group member has a specific role to play (leader, recorder, typist, editor, telecommunicator.) Explain to students that their individual

GUIDE

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"success" in these activities depends on the total group effort. Talk with them about ways to cooperate, how to solve differences, and who makes the final decision if one is needed. Point out that only when a group activity is satisfactorily completed will each member get credit on the grid chart.

ACTIVITY CARD GUIDE

ACTIVITY 1: MAGIC MODEM

Introduce the poster, super heroes, and code words. Begin a discussion on telecommunicating. Ask your students what they think it means to telecommunicate. Explain to them that telecommunicating means that one computer is "speaking" to another computer. Next talk about the equipment that is necessary to telecommunicate—a computer, modem (interface card inside computer; modems can be internal or external; there are many different kinds), software to talk to the modem, and a phone line. Write the names of these tools on the board.

Now explain how a message is actually sent. Tell them that a person using telecommunicating software writes a message on his or her computer. The message is sent via the modem (which breaks the message in computer code into pulses) to a telephone line. The modem hooked up to the computer receiving the message changes the pulses back into computer code so the message can appear on the computer screen.

ACTIVITY 2: COSMIC COMPLIMENTS

Talk about what it feels like to give someone a compliment. Do your students like making others feel good? Talk about the different ways you can compliment a person without speaking. On the chalkboard or chart paper make a list of complimentary words or phrases. Next explain to students that they will be starting the "Cosmic Compliments Mail Service Program."

To make this program work, students must be taught how to use your mail-simulation program. Once they understand how it works, they can give Cosmic Compliments with or without signing their names to them.

ACTIVITY 3: CRUSADER TRIVIA

Divide the class into small groups. Have each group use Activity Card 3 to begin an online data base(or students can use an almanac) to search for the answers to the card's trivia questions. You may want to use a data base such as *Classmate* by Dialog Information Services. Using the first letter from each of these answers, they can spell out the answer to Teletron's riddle: TELECOMMUTER.

Trivia Answers: Taughannock, 850, Louisiana, Eli Whitney, Canada, oil, Mediterranean, Maine, umbrella, 3.43 lbs, elver, railroad.

ACTIVITY 4: TURNING PAGES

Hold an online book discussion with another classroom. Students may work as a class or sign up in groups to discuss certain book characters or chapters with their online peers.

Before beginning this online discussion, teachers should exchange information about their classes. For instance, teachers should exchange the reading and discussion level and abilities of their students. Next, a particular author or book must be decided on. Or, depending on the students, the decision could be left up to each student group.

ACTIVITY 5: LEND A HAND

Have a class discussion about ways your students can help their community. You may want to suggest some group ideas like repainting a playground, starting a recycling program, or cleaning up a local park.

Once your class decides on an idea, have them go online in search of another classroom that is also interested in volunteer work. They should discuss with this classroom their community service idea. What ideas or plans does the online classroom have? Have both classes keep each other posted on the progress of their service program. When both programs are complete, hold an online celebration for a job well done.

ACTIVITY 6: FAR-OUT FOODS

Divide your class into groups. Assign each group a state or country that you can telecommunicate with. Next, have your students make up a list of Far-Out Food questions to ask their online peers. For instance, what types of fruits and vegetables are common to the telecommunicated region? What do students eat for lunch? What's a common snack? Who prepares the daily meals? What kinds of foods are served on holidays or special occasions?

ACTIVITY 7: WEATHER WATCH

Telecommunicating is a perfect way to exchange data from science experiments. To do this, students should decide on a subject area and have experiments that both classrooms can duplicate. For example, classes can plant identical seeds and compare growth patterns depending upon the amount of light, fertilizer, and water the seedlings receive. Or they may share daily weather reports. For this exercise, students can record data with a hygrometer, barometer, thermometer, and rain gauge and telecommunicate the daily results. With either experiment, students should record and compare their final results with graphs.When the project is complete, have students exchange their graphs with their telecommunicating friends. Activity Card 7 discusses sharing weather reports.

ACTIVITY 8: COSMIC COINS

This activity asks students to research the monetary units of different countries. Students should speak to foreign students about the value of their money. Explain that everyone uses money, but its value varies greatly depending where you are. Have students follow the questions on the Activity Card to find out what an American dollar can buy in a foreign country. When all of the data is collected, have your students use graphs to record their findings. Once again, they should share their results with the classrooms they spoke to.

COPY & LAMINATE

ACTIVITY CARDS

ACTIVITY 1
MAGIC MODEM

Cosmic Communicator's niece, Constance Comet, wants to send a friend in another country a message. Unfortunately, Constance doesn't understand how to telecommunicate. Lend Cosmic Communicator a hand, and help her explain to her niece how it's done.

- **First, draw a picture of two computers with the tools needed for telecommunicating.**
- **Next, label each tool with its proper name. You may want to use colored pencils or markers to label each tool.**
- **Finally, write a paragraph that explains how a message is sent from one computer to another computer. (It may be helpful to list and number each step in addition to explaining how it's done.)**

ACTIVITY 2
COSMIC COMPLIMENTS

Cosmic Communicator likes to make others feel good. She knows that humans and Computer Crusaders feel good about themselves when they receive a compliment. Now it's your turn to make your classmates feel good about themselves every time they check their computer mail!

1. Follow instructions to log-on to your computer-mail program.
2. Type in a special Cosmic Compliment to a classmate. (If you want the compliment to be a surprise, don't sign your name.)
3. Send your message.
4. Sit back and watch for smiles and happy faces.

Sample Cosmic Compliment:
Your smile is like a ray of sunshine.

ACTIVITY 3
CRUSADER TRIVIA

A riddle from Teletron:

Who goes to work everyday without ever leaving home? _ _ _ _ _ _ _ _ _ _ _ _ _

To figure it out, answer the trivia questions below. The first letter of each question will spell out the answer to his riddle. (Hint: An online data base or an almanac will be a big help.) Good luck!

TRIVIA QUESTIONS:

- **What is the highest waterfall in New York State?**
- **How many active volcanoes are there in the world?**
- **Which state is known as the Pelican State?**
- **Who invented the cotton gin?**
- **What country has a maple leaf on its flag?**
- **In 1986 the U.S. produced 8.67 million barrels of this a day.**
- **Where does the Nile River empty into?**
- **The Appalachian mountains run through this state.**
- **What goes up when the rain comes down?**
- **In 1984, how much garbage did the average person produce each day?**
- **What is a baby eel called?**
- **In 1869 a golden spike played a role in what type of transportation?**

ACTIVITY 4
PAGE TURNERS

Now's your chance to turn some pages with an on-line friend.

1. Read the chosen story selection at least twice.
2. Take notes on plot, setting, and characters.
3. Discuss the story with a classmate and make a list of questions that you would like to talk about with an online friend.
4. Sign up for the online story discussion.
5. Save a copy of the online discussion.
6. Write a review explaining what you learned or how your ideas changed by discussing a book with a telecommunicating friend.

COPY & LAMINATE

ACTIVITY CARDS

LEND-A-HAND ACTIVITY 5

Cosmic Communicator and Teletron like to help others. As a class of super heroes, you will plan, organize, and telecommunicate a Lend-A-Hand activity with an on-line classroom.

1. Brainstorm a list of things you could do for your community.
2. Take one idea from your list and plan it out on paper.
3. Make a list of any materials or special help you may need. Make another list with the names of people that you will need to contact.
4. Speak to your classmates about their ideas.
5. Decide on one idea and exchange it with the classroom you are telecommunicating with.
6. As you work, keep in touch with your on-line classroom, swapping weekly progress reports.
7. When classrooms are finished with this Lend-A-Hand activity, hold an on-line celebration for a job well done.

WEATHER WATCH ACTIVITY 7

Did you ever wonder what the weather was like in another part of the country or world? Now you can conduct a long-distance weather update!

1. Check to see which parts of the country or world you are able to telecommunicate with.
2. Make a list of the different instruments that are available to you to measure the weather.
3. At the same time each day, take the instruments outside. Record the measurements they take.
4. Telecommunicate your data to the other classroom.
5. Record the data that you receive online.
6. After two weeks of exchanging data, arrange the information into graphs.
7. Compare the final graphs. What conclusions can you make?

Instruments for measuring weather:
barometer, hygrometer, rain gauge, thermometer

FAR OUT FOODS ACTIVITY 6

Be a food detective! Find out what's on the tips of tongues in other parts of the world! Find out if peanut butter and bananas on whole wheat bread is a favorite of kids in Sweden; or if kids in China really do eat snake soup.

1. Make a list of common foods (apples, pancakes, peanut butter)
2. Make a list of things you eat for breakfast, lunch, dinner, and snacks.
3. Contact a school in another country or part of the U.S.
4. Share your list of foods with an online friend. Find out what some of his or her common foods and meals are.
5. Compare your list with his or hers. Are there many differences?
6. Exchange simple recipes.

As a follow-up, after you make the recipe, telecommunicate what you thought of it.

COSMIC COINS ACTIVITY 8

Money makes the world go 'round, but what's it called in Athens, Greece? How much does a comic book cost in Istanbul, Turkey?

Go on-line with as many different foreign schools as possible. Talk to them about their money. Find out what it looks like. Are there pictures on the coins? What color is the paper money? What are the names for the different values?

Next, find out what one American dollar is equal to in their currency. How much does it cost them to see a movie? Figure out how much their movie costs in American dollars.

Finally, compare the foreign currencies with American currencies on a graph. What do you notice about their values? Check in the newspaper for daily listings of foreign-currency values compared with the dollar.

A Directory of Educational Networks and Online Projects

If you want to get involved with telecommunications, your options are practically limitless. Following is a listing of just some of the networks and telecommunications projects available to teachers and students. In addition to a brief product or service description, we've included pricing structure and subscription information. Some networks are compatible with several computer types, while others are machine-specific. For further information, contact the individual organizations.

America Online
8619 Westwood Center Drive
Vienna, Va., 22182
(800) 227-6364

Formerly AppleLink, American Online is a telecommunications service for the Apple community. Provides E-mail, updates for Apple II and Macintosh users, conferencing, and extensive reference library on product and technical information. Tutoring Center offers study materials and courses. Monthly fee and hourly connect charges.

CompuServe
5000 Arlington Centre Blvd.
P.O. Box 20212
Columbus, Ohio 43220
(800) 848-8199

Provides online access to news, financial services, travel reservations, forums, and live educational conferences. Extensive E-mail system and online "shopping mall." Sign-up fee and hourly connect charges.

Delphi
3 Blackstone St.
Cambridge, Mass. 02139
(800) 544-4005
(617) 491-3393 in Mass.

Provides E-mail, encyclopedia, news, games, shopping, groups and clubs, and travel information. Members come from over 40 countries. Sign-up fee and hourly connect charges.

FrEdMail Project
San Diego County
Office of Education
Linda Vista Rd.
San Diego, Calif. 92111
(619) 292-3639

A cooperative educational messaging network in which participants contribute to the activities of the network. Two conferences are available: Ideas, a teaching ideas exchange; and Kidwire, a bulletin board to post student work. Software and connect time are free. Toll calls are necessary if there's no local bulletin board.

GEnie
Box 02B-C
401 N. Washington St.
Rockville, Md. 20850
(800) 638-9636

Information services covering finance, travel, news, reference, shopping, computing, and entertainment. A Round Table special interest group on education is available. Sign-up fee and hourly connect charges.

GTE Education Services
2021 K St. NW, Suite 215
Washington, D.C. 20006
(202) 835-7311

The largest information and communications network servicing education. Among the many online services: *Ed-Line,* data bases covering education management issues; *SciTech,* structured classroom activities that provide access to current scientific information; and *SpecialNet,* information exchange for special education. Pricing structure varies depending upon service.

Institute for Global Communications
3228 Sacramento St.
San Francisco, Calif. 94115
(415) 923-0900

A network dedicated to global peace and environment issues enables users in over 70 countries to communicate via E-mail and conferencing. Also offers data bases. Conferences include *PeaceNet, EcoNet, and ConflictNet.* Costs include a sign-up fee, connect time charge, and a monthly minimum.

Interactive Communications and Simulations
School of Education
University of Michigan
Ann Arbor, Mich. 48109-1259
(313) 763-6716

A worldwide network that offers role-playing simulations and conferences covering such issues as the Arab-Israeli conflict. An interactive poetry guild sponsors writing and sharing of verse. Eighteen different countries are participating members. One up-front registration fee.

Iris
MECC
3490 Lexington Ave. North
St. Paul, Minn. 55126
(800) 228-3504

Formerly the McGraw-Hill Information Exchange (MIX), Iris provides online curricular-based projects in language arts, social studies, math, and science for all grade levels. The Teacher Center promotes the exchange of ideas and colleagiality. Annual subscription and hourly access fee.

Kids Network
National Geographic Society
17th and M Sts.
Washington, D.C. 20036
(202) 775-6580

Students perform hands-on, locally researched science projects (such as on acid rain) then share their results via the network with other schools across the country. An online scientific specialist helps students interpret and understand their results. One-time charge covers software, print and lab materials. Connect time is a flat fee that covers the duration of each project.

Learning Link
Learning Link National Consortium
356 W. 58th St.
New York, N.Y. 10019
(212) 560-6868

A full online system that features a variety of data bases and information resources, message centers and mail, threaded discussions, surveys, and gateways to remote data bases, and bulletin boards. Access is usually through local or toll-free calls. Costs range from no charge to a yearly flat fee which includes toll-free unlimited access.

Long Distance Learning Network
AT&T
P.O. Box 716
Basking Ridge, N.J. 07920-0716
(800) 367-7225, ext. 4158

Offers curriculum-based projects through "learning circles," six to nine classrooms who exchange and discuss work for a set period of time, then publish a report of their work. Single subscription rate covers membership in a learning circle, all access costs, curriculum guide, tutorial disk, software, technical support, and a newsletter.

News Access
Teachable Tech
2179 Hannah Lane
Tucker, Ga. 30084
(404) 939-4596

A joint project of the Cable News Network and Teachable Tech, the project centers around CNN's "Week in Review" news program. Schools videotape the broadcast and receive a classroom guide via E-mail. Annual fee includes video and print duplication rights. Network access available through GTE and X-Press Exchange.

NYCENET
N Y City Board of Education
Computer Information Services
Intermediate School #25
34-65 192nd St.
Flushing, N.Y. 11358
(718) 935-4040

New York City Educational Network offers a bulletin board, online curriculum guides, encyclopedia, a data base of software titles, and real-time conferencing. NYCENET recently hooked up with Unitex, the bulletin board of the United Nations. Connect time is free.

Personal Sharing Information Network (PSINet)
IBM Educational Systems
PO Box 2150
Atlanta, Ga. 30055
(800) IBM-2468

Software designed to help geographically distributed IBM PC and PS/2 users establish their own network and communicate with each other. Software contains E-mail, bulletin board, and conferencing capabilities. Price varies, depending on whether you purchase network server software or single workstation software.

Prodigy
445 Hamilton Ave.
White Plains, N.Y. 10601
(914) 993-8000

Online information on weather, consumer and general news, and sports. Educational services include The Club, an electronic bulletin board for kids; The SmartKids quiz, in which children test their knowledge of history, geography and other subjects; science and rock and roll news, updated daily. Flat monthly fee, local access.

SchoolLink
Radio Shack Education Division
700 One Tandy Center
Fort Worth, Texas 76102
(817) 390-2967

A joint effort between Tandy/Radio Shack and GTE, SchoolLink is an international telecommunications project that explores integrated curricular activities in science and social studies and attempts to foster intercultural awareness among diverse student populations. One fee covers the first 10 hours of online time; additional 10-hour time blocks available at a discount. Sign-up closes June 15.

Unison Education Network
Unison Telecommunications Service
700 West Pete Rose Way
Cincinnati, Ohio 45203
(513) 723-1700

A large E-mail network that can exchange mail with more than 25 other online systems. The Education Network allows users to build private information and conferencing networks. Annual fee, hourly access charges.

Note: A modem is required to reach some of the phone numbers listed on this page.

OUR CHANGING

Your students take on their surroundings as they become computer-using environmentalists.

ENVIRO

WMENT

Where do we put 150 million tons of garbage each year? Why are there so many endangered animals? What's all the fuss about acid rain? Is my tap water safe?

Fifty years ago no one would have thought to ask these questions. As time passes, however, and as our society continues to advance, more and more people are realizing that our planet is changing—and not for the better.

(CONTINUED)

CURRICULUM CONNECTIONS

SCIENCE
Learning facts about the environment

LANGUAGE ARTS
Critical reading
Gathering data to write a report

CRITICAL THINKING
Evaluating evidence
Drawing reasoned conclusions

by Joyce Currie and Cedelle Troxler

There is no guarantee natural resources, wildlife, and land space will last forever. It's important that young people become environmentally aware before it's too late. This goal can be achieved with a classroom computer, common tool programs, software simulation programs, and if available, a modem.

A modem can link your class to the most current information, statistics, and data about the environment from around the nation and the world.

Materials Needed: A wide variety of computer resources are available for studying the environment. Programs that are mentioned in this class project are *Oh, Deer!* and *Odell Lake* (MECC), *Audubon Wildlife Adventures: Grizzly Bears* (Advanced Ideas) *Voyage of the MIMI: Ecosystems* and *Endangered Species Data Base* (Sunburst). Tool programs such as a data base, word processor, spreadsheet, and graphic program are also necessary.

If you have telecommunications capabilities, you may want to use the National Geographic *Kids Network: Acid Rain*, and *Econet*. (Please note: A complete listing of all the programs used in this project and their companies is provided on the last page of this project.).

Step One: Choosing a Topic

There are a number of environmental concerns that you can choose from to discuss in class. For example, as a class your students may wish to investigate: ecosystems, food webs, conservation of natural resources, pollution, human population, energy, endangered wildlife species, waste disposal, and the interrelationships of humans and nature. Or they may choose to research a concern that is particular to your state or region of the country. For instance, students in Greensboro, North Carolina, have studied the seepage of gasoline into ground water, while students in the Gettysburg National Park area in Pennsylvania are battling a deer overpopulation problem.

Students can find out what topics are important in your area by combing through the local newpapers, and making phone calls, or writing letters to local environmental organizations.

Step Two: First-Hand Experience

Environmental simulation programs present students with a variety of changing environmental situations in ways that will help strengthen problem- solving and analytical skills. They also help students see first hand that decisions made by individuals do affect the environment. Depending on your topic, you may want to investigate some of the following simulation software. For example, *Oh, Deer!* simulates the problems that can result from a growing deer population. After reading accompanying documentation, mapping progress with charts, and completing follow-up activities, student groups can decide on the proper way to control the population.

Other simulation programs you may want to investigate are: *Odell Lake*, *The Voyage of the MIMI: Ecosystems*, and *Audubon Wildlife Adventures : Grizzly Bears*.

Students can study various species in a mountain lake to learn about animal interaction and food chains with *Odell Lake*. *Ecosystems,* covers topics such as the ecosystem, abiotic and biotic factors that are common to communities, predator/prey relationships, food chains and webs, producers and consumers, and how people interact with the environment to produce change. Finally, *Grizzly Bears* introduces students to the world of an endangered species, the grizzly. Areas covered in this program are how the bears live, their behaviors, and the history of their existence.

Step Three: Telecommunications

After your students have investigated a local issue and used computer simulations to develop an understanding of the topics involved with environmental concerns, they may want to broaden their study to regional, national, or global issues such as the Alaskan oil spill, the greenhouse effect, acid rain, diaper disposal, food shortages, and population growth. This can be accomplished a few ways. Students can either broaden their research to include national newspapers, magazines, and environmental groups, or they can use a modem and phone lines to telecommunicate with students in different states or countries.

For instance, telecommunicating students may want to link into the National Geographic *Kids Network*. As part of this network, students can share data and expertise with their peers in large-scale science experiments. A program currently available through *Kids Network* that is useful for studying rain is *Acid Rain*. As students gather data (collecting rain samples) to participate in this program, they continuously receive and exchange information and insights with the program's research team—a group of geographically diverse schools.

Another possibility is *EcoNet*, a highly sophisticated telecommunications system that serves the global environmental community. Some organizations using *EcoNet* are: the American Energy Council, Computer Using Educators, Friends of the Ozone Layer, Greenpeace, the Sierra Club, and the World Wildlife Fund (there is a total of 250 organizations).

EcoNet is a very reasonable way ($10 per hour including Telenet charges and a modest sign-up fee) to have access to public conferences including animal rights, pollution, and urban issues. This network is an excellent resource for an environmental unit.

Step Four: Conducting a Survey

Survey schoolmates, teachers, and parents on their current recycling habits. For instance, you may ask questions like: Do you presently save paper, plastics, and glass for recycling? Do you use only white paper products at home, instead of colored? Tallying the results from survey questions like these can be made easier with a program like *Instant Survey* (MECC).

After studying the results and drawing up a conclusion to the survey, students may want to take their data a step further and use them as the basis for a recycling program for the school or community. With the approval of your school's administration, begin this program by sending home newsletters describing the results of the survey and what the recycling program entails. Older students may want to give a presentation to the school and parents discussing the importance of recycling. Next, students should make posters designating collection sites. A

desktop publishing program or a combination of tool programs can help your class complete this.

After a couple of months, give the survey again. Analyze the results and announce your recycling success to the school by publishing another newsletter —on recycled paper.

M. Joyce Currie is a technology specialist and **Cedelle Trexler** is an eighth-grade science teacher at Lincoln Middle School of Science, Math and Technology in Greensboro, NC.

Software
Ready-Made Programs

***Audubon Wildlife Adventures: Grizzly Bears*, Advanced Ideas, Berkeley, CA; 415/526-9100; Apple IIe, IIc, IIGS, MS-DOS.**

***Oh, Deer!*, MECC, MECC, St. Paul, MN; 800/782-0032; Apple IIe, IIc, IIGS.**

***Odell Lake*, MECC, MECC, St. Paul, MN; 800/782-0032; Apple IIe, IIc, IIGS.**

***Voyage of the MIMI: Ecosystems*, Sunburst, Pleasantville, NY; 800/252-7511; Apple IIe, IIc, IIGS.**

Tool Programs

***Endangered Species Databases*, Sunburst, Pleasantville, NY; 800/252-7511; Apple IIe, IIc, IIGS.**

***Appleworks*, Claris, Santa Clara, CA; 408/727-8227; Apple IIe/c.**

***MicroSoft Works*, Microsoft Corp, Redmond, WA; 800/426-9400; Macintosh, MS-DOS.**

***Instant Survey*, MECC, St. Paul, MN; 800/228-3504; Apple IIe, IIc, IIGS.**

***SuperPrint II*, Scholastic, New York, NY; 800/541-5513; Apple IIe, IIc, IIGS, MS-DOS.**

Telecommunications

National Geographic: *Kids Network*
17th and M Streets,
Washington, DC 20036
800/368-2728

Econet
Institute for Global Communications -
A Division of the Tides Foundation
3228 Sacramento Street
San Francisco, CA 94115
415/923-0900

USING THIS PROJECT WITH SPECIAL NEEDS STUDENTS

BY NANCY BLEY

Learning disabled students can benefit greatly from educational computing. Below you'll find key terms and strategies for adapting this class project for these students.

DEFINITION OF TERMS

Expressive Language: Students experience difficulty in this area as inability to "get the words out," even if they understand what response is expected from them.

Visual Perception: This type of disability includes visual discrimination problems (a tendency to reverse letters and numbers) and visual figure ground problems (difficulty finding one's place on a page).

Spatial Problems: Students with difficulty in this area have trouble orienting themselves in space, which makes it even more difficult for them to understand spatial relationships on paper or computer screen.

Abstract Reasoning: Students with this disability find it hard to relate information and draw conclusions; they tend to be very concrete, have trouble with idioms, and often miss the overall point of the story.

ADAPTIVE STRATEGIES

What Big Words: Learning disabled students often have trouble with reading and/or vocabulary. Preview the terms described in Step One of this unit. Make sure that students understand the words in context and are able to recognize the definitions. Programs such as Word Attack Plus (Davidson) and Square Pairs (Scholastic) are good programs for this purpose.

Simulations Are Only Similar: Students with abstract-reasoning difficulties often have trouble with simulations that are not relevant to their lives. Address this problem by previewing the vocabulary and relating the words to the student's own experiences.

What Did I Read When: Preview the programs and prepare simple outlines, vocabulary cards, and summaries of each screen. Have students review these off the computer. When they use the computer, have them sequence the summaries to match the problem.

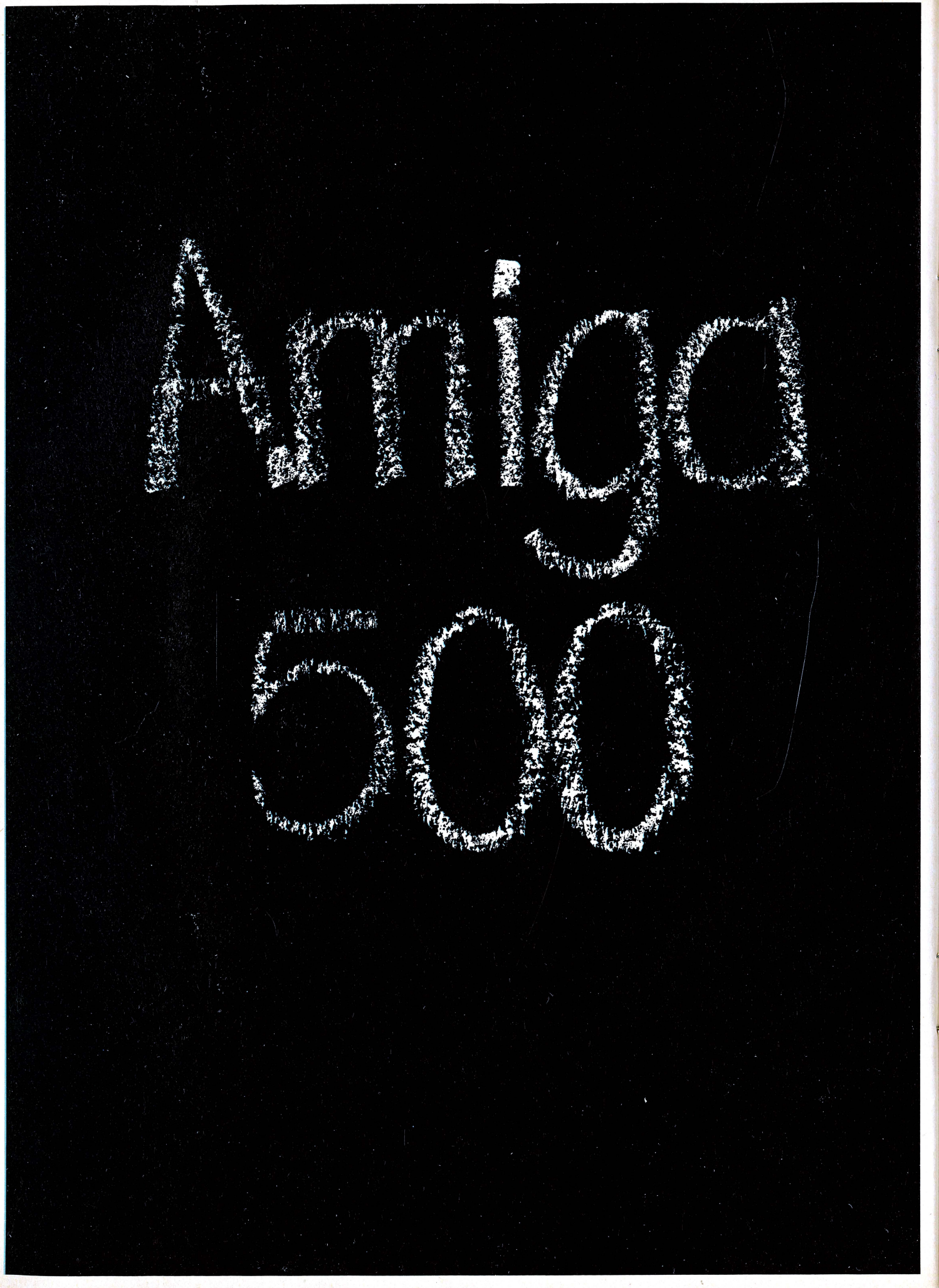
I Know What I'm Thinking: Since simulation programs are best used by a small group and involve much discussion, students with expressive-language problems may have trouble exhibiting their understanding and knowledge of the program. Cue cards may help them elicit ideas. For example, allow these students to preview the program prior to working with other students and provide them with a guided outline to fill in as they proceed. In this way, when working with the other student, their memory problems and their inability to find the correct words will not interfere as much. They can then be more active members of the group.

Mapping It: It may help when using programs such as *Audubon Wildlife Adventures: Grizzly Bears*, to provide simple maps for the students to use as starting-off points. Some may simply be provided with maps to match with the computer work they are doing. In general, determine whether the goal of the assignment is learning to read maps or learning more about where various animals live from reading maps. Break the assignment into parts, focusing on each goal separately before expecting students to combine goals.

Review, Please: The study of the environment involves the use of many different math skills. Students with abstract-reasoning problems may not readily generalize their previously learned computation skills with the math needed to solve these situations. Provide plenty of practice reviewing operations which involve both large and small numbers.

Consistency Helps: The study of the environment can be a very broad subject, providing an opportunity for each student or each group of students to choose a different subject. If the class includes mainstreamed students, the broad scope of this topic can be very confusing and it may help to narrow the topic so that it is easier to preview ideas. Additionally, a field trip prior to the onset of the unit may help to make the concepts more real to learning disabled students. If possible, choose a field trip that is related to the topic. This will make it easier for students with learning disabilities, since their ability to generalize may tend to be a problem.

Nancy Bley is academic coordinator at the Park Century School in Los Angeles, Calif.


Amiga
500

Because Our Students Don't Just Think In Black And White Anymore.

Color is a key to creativity. And creativity is a key to learning. Our students no longer see the world from black boards and grey texts. They enter our schools stimulated by color in graphics, sound and motion.

Amiga 500 challenges creativity. Recognizing the need for our students' creativity to be challenged, Commodore has designed a computer to meet the demands of the educational marketplace, the Amiga 500. With brilliant color graphics, almost unlimited animation possibilities, music, speech, video production power and quality educational software, Amiga 500 is the multimedia machine of the 90s.

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ELECTRONIC LESSON PLANS

LANGUAGE ARTS

Computing in the Content Areas This Issue

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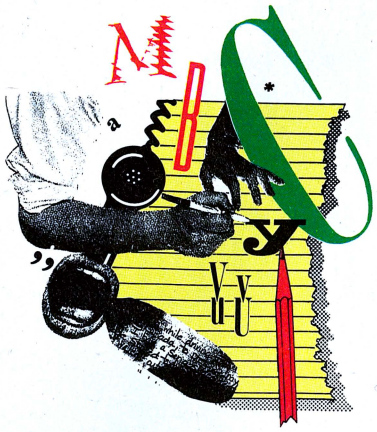


"WITCH" WORD IS "WRITE?"

Curriculum Objective: *Teaching Homonyms*
Computer Skill: *Using a word processor and data base*

"Sum fun it wood bee to take the day off two play in the son."

Here's a lesson plan filled with learning fun. It will help students identify and distinguish between homonyms, as well as develop creative writing, word processing, and data base skills.

Materials Needed: You will need word processing software and a data base program. It is also helpful to have reference books such as dictionaries and a book of homonyms on hand.

Preparation: To introduce homonyms to your class have the following sentences written on the board:

•Paul had the biggest roll in the class play.

•The poll vaulter broke all world records.

•It was two bad that the son wasn't shining.

Discussion: Explain that homonyms are words that have the same sound, sometimes even the same spelling, but differ in meaning. Give students a few examples of homonyms. Next, ask students to read the sentences on the board. Do they make sense? Why not? Talk about the humor in the sentences as they picture the situations. Can your students provide the correct word and meaning of the word in the sentence?

Activity: Using the four homonyms from the previous sentences (roll-role, poll-pole, two-too, and son-sun) as examples, have students list as many homonyms as they can. Write the pairs on the board, and discuss the meaning of each word (it's important that they understand the definitions). Explain to them that they will be setting up a data base using these words so they should try and list as many as possible. If it is necessary, demonstrate how to use a book of homonyms and let them choose from there.

You may also want to give them the following list. Try giving them only the first word, and see if they can figure out the spelling of its homonym:

rain - reign
there - their
wear - where
four - for
weather - whether
which - witch
know - no
your - you're
bear - bare
soar - sore
two - too
knight - night
hear - here
break - brake
peace - piece
seam - seem
passed - past
stair - stare

Activity: Once the homonym list is complete, have students enter it into their data bases using the following fields: WORD, DEFINITION, HOMONYM, DEFINITION 2. After they enter their list, have them sort the data base alphabetically.

Activity: Using the word processor and as many words in the data base as possible, have students (either in groups or individually) write a story. Students should write a story using the homonym of as many words as they can. They can consult their data bases for this information.

Here is a sample story. Students may use it as a story starter or just as an example for their own stories.

The Kingdom of Sounds Alike

Once upon a time, there was a tiny kingdom called Sounds Alike, *wear* things were not always as they *seamed*. The queen of Sounds Alike had *rained* over this country for many years.

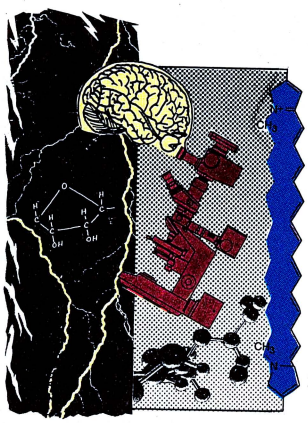
One day she *censed* evil lurking in her kingdom. So she called her three trusty *nights two* check things out. These *nights* were *their* to protect and guard the kingdom from evil.

Depending on the level of your students, you may or may not wish to have them indicate the homonyms in special type.

Activity: After students have completed their stories, have them exchange disks with other students (or groups, if that is the case). The students should read the stories, and determine which words have been replaced by their homonyms. Next, they should make any necessary changes. Students should consult with their data bases if they have any questions.

Extension Activity: Have students draw pictures of the comical situations that arise in their stories as a result of using a word's homonym. Make a bulletin board display of their stories and drawings.

Terri Pellicano
Albany, NY



SCIENCE

MOON FACTS

Curriculum Objective: *Studying facts about the moon*
Computer Skill: *Programming in Logo and using a word processor*

If the moon were placed on top of the United States, it would cover the area between Cleveland and San Francisco. The moon travels at a speed of 2,300 miles per hour around the earth. On July 20, 1969, Neil Armstrong became the first person to step on the moon.

The following lesson plan will help your students study the moon while learning to program with Logo. Students will also be asked to research the moon and write a report of their findings on a word processor.

Materials Needed: You will need either Apple Logo II or IBM Logo, a word processor, encyclopedias, and other reference books about the moon.

Preparation: The Logo procedures on page 42 show the moon in its different phases. Enter these procedures listed for the new moon, new crescent, and first quarter in your computer.

Discussion: Provide your students with some basic moon facts. Begin this discussion by asking them what they know about the moon. Write their responses on the chalk board. Next, tell them the facts. For instance, the moon is about 238,857 miles from the earth. Each moon day or night lasts approximately15 earth days! The moon takes 27.3 days to travel around the earth. During this time we see the moon in its different phases: new moon, waxing crescent, first quarter, waxing gibbous, full moon, waning gibbous, last quarter, and wanning crescent.

Activity: To help students gain a perspective of the moon's relation to the earth, have them draw, to scale, a picture of the moon's orbit around the earth. Students should keep in mind that the moon's radius should be one-fourth that of the earth's, and its orbit should be about 30 earth diameters from the center of the earth. Have them label the moon, earth, and sun, and the direction the moon orbits the earth.

Activity: It is important that students know that the moon does more than orbit the earth. How many of your students know how the moon affects the earth's oceans and seas? Using a word processor, have them write down what they think happens. Then, have them research the phenomenon. Using their new data, they should rewrite, add to, or edit what they previously wrote. Some students may want to draw a diagram explaining the process.

You may want to explain that it's the moon's gravity that affects the earth's large bodies of water. The water directly below the moon is pulled up by the moon slightly more than average. On the other side of the earth, the moon pulls the land away from the water, slightly more than average. What results are two "bulges" or high tides in the earth's oceans and seas. As the earth rotates, the high tides move from east to west.

Activity: If the moon's rotation on its axis and revolution around the earth are 27.3 days, why does it take 29.5 days to go from new moon to new moon? In answering this question, explain that the Logo diagrams in this program are very geocentric — they are all drawn from the point of view of the earth. From the point of view of the sun, however, the earth moves roughly one-thirteenth of its way along its orbit every month, and it takes a couple more days for the moon to realign with the sun. Students may want to make a Logo drawing to illustrate this point.

Activity: Have your students research the phases of the moon. Next, have them look at the Logo programs that show some of the moon's phases. Explain that each Logo diagram is a top view of the moon from above the earth's north pole. From this perspective, the rotation of the earth and the revolution of the moon along its orbit are counterclockwise.

Next, have your students draw the phases of the earth, (first on paper, then using Logo) as seen by an astronaut on the moon. Note that the phases are different by half a cycle; that is, a new moon corresponds to a full earth, a waxing moon corresponds to a waning earth, and so forth.

Extension Activity: Ask your students why there isn't an earthrise or earthset on the moon. Tell them to look at their Logo diagrams and drawings and consult their research books. Write down some of their explanations. Then explain that the moon rotates on its axis at the same rate as it revolves along its orbit around the earth — both motions take 27.3 days to complete. Thus, the same side of the moon always faces the earth, and the earth hangs stationary in the moon's sky. As a result, from the moon, an earthrise and earthset never appear.

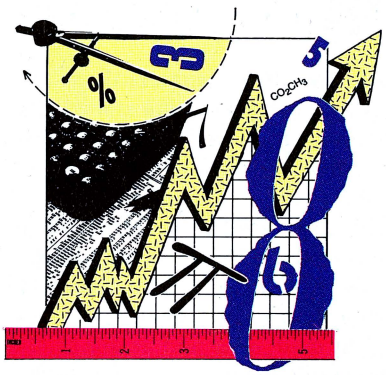
Dianne Hyer and Roger Eckhardt,
Los Alamos, NM

(continued)

THE PROCEDURES

The following procedures are suitable for Apple Logo II and, with the changes noted by an ✱ , are suitable for IBM Logo as well.

```
TO NEW. MOON
EARTH.AND.MOON 0
PR [THE NEW MOON IS
ALMOST IMPOSSIBLE TO]
PR [SEE, BUT IT'S
THERE FOR RISING AND]
PR [SETTING TIMES,
PRESS ANY KEY.]
SUNBEAMS 0
END

TO NEW. CRESCENT
EARTH.AND.MOON 45
PR [THE NEW CRES-
CENT MOON CRADLES
THE OLD]
PR [MOON IN ITS
ARMS. FOR RISING AND]
PR [SETTING TIMES,
PRESS ANY KEY.]
SUNBEAMS 45
END

TO FIRST. QUARTER
EARTH.AND.MOON 90
PR [FIRST QUARTER!
THE MOON'S ONE-
FOURTH]
PR [OF THE WAY
THROUGH THE CYCLE
AND]
PR [WAXING
BRIGHTER. PRESS ANY
KEY.]
SUNBEAMS 90
END

TO EARTH.AND.MOON :
ANGLE
CS SS CT     (✱)
EARTH
PU SETH 270: ANGLE
FD 80 SETH 0 PD
(✱) change to CS MS SET-
TEXT 4 CT (for MS-DOS)

MOON
ORBIT
END

TO EARTH
SETPC 5
PU SETPOS [45 20]
CIRCLE 20
SHADOW 20
SUBTEND
END

TO MOON
SETPC 1
CIRCLE 6.667
SHADOW 6.667
END

TO ORBIT
SETPC 3
PU SETPOS [45 20]
DASH.CIRCLE 80
END

TO CIRCLE :R
LOCAL "L
MAKE "L 3.146 * :R / 12
HT SETH 0
PU FD :R RT 90 BK :L / 2
PD
REPEAT 24 [FD :L RT 15]
PU FD :L / 2 LT 90 BK :R
END

TO SHADOW :X
PD BK :X FD 2 * :X BK
:X
PU LT 90 FD 2 PD FILL
PU BK 2 RT 90
END

TO SUBTEND
PU SETPOS [45 20] SETH
265- :ANGLE
SETPC 2 FD 20
REPEAT 4 [PD FD 10 PU
FD 10]
PU SETPOS [45 20] SETH
275-: ANGLE FD 20
REPEAT 4 [PD FD 10 PU
FD 10]
PU SETPOS [45 20]
END

TO DASH.CIRCLE :R
LOCAL "L
MAKE "L 3.146 * :R / 24
HT SETH 0
PU FD : R RT 90 BK :L / 2
PD
REPEAT 16 [FD :L RT 7.5
PU REPEAT 2 [FD :L RT 7.5]
PD]
PU FD :L / 2 LT 90 BK :R
END

TO SUNBEAMS :N
LOCAL "CHAR LOCAL
"BEAM.POS.LIST LOCAL
"BEAM.POS
SETPC 1 SETH 90 (✱)
MAKE "BEAM.POS.LIST
[ ]
REPEAT 20 [SUNBEAM]
CYCLE.BEAMS
END
(✱) change the SETPC
command to SETPC 3

TO SUNBEAM
PU
MAKE "BEAM.POS.LIST
-135 + (RANDOM 21) -50 +
(RANDOM 141)
MAKE "BEAM.POS.LIST
LPUT :BEAM.POS :BEAM.
POS.LIST
SETPOS :BEAM.POS
PD REPEAT 2 + (RAN-
DOM 6) [FD 10]
END

TO CYCLE.BEAMS
IF KEYP [MAKE "CHAR
RC RISE.AND.SET STOP]
ERASE SUNBEAM
SUNBEAM
CYCLE.BEAMS
END

TO ERASE.SUNBEAM
PU SETPOS FIRST
:BEAM.POS.LIST
PE FD 70 PU
MAKE "BEAM.POS.LIST
BF :BEAM.POS.LIST
END

TO RISE.AND.SET
RISE.ARROW
RUN SE WORD :N "R [ ]
WAIT 270 (✱)
ROTATION
SET ARROW
RUN SE WORD :N "S [ ]
END
(✱) change to WAIT 90

TO RISE.ARROW
PU SETPC 3 (✱)
SETPOS [45 20] SETH
360-:N
FD 18 PD FD 7 LT 105 FD
20 RT 30 BK 5
FD 5 LT 60 BK 5
END
(✱) change to SETPC 2

TO ROTATION
PU SETPOS [45 20] SETH
360- :N
FD 18 PD FD 7 LT 105 FD
20 RT 30 BK 5
FD 5 LT 60 BK 5
END

TO ROTATION
PU SETPOS [45 20] SETH
360- :N
FD 14 LT 90 PD
REPEAT 25 [FD 1.8352 LT
7.5]
LT 15 BK 8 FD 8 RT 60
BK 8
END

TO SET.ARROW
PU SETPOS [45 20] SETH
180- :N
FD 18 PD FD 7 RT 105 FD
20 RT 30 BK 5
FD 5 LT 60 BK 5
END

TO OR
CT PR [\\\ THE NEW
MOON RISES AT DAWN
AND]
END

TO OS
PR [\\\ SETS WITH THE
SUN AT SUNSET.]
END

TO 45R
CT PR [THE NEW CRES-
CENT RISES IN THE
MORNING]
END

TO 45S
PR [AND SETS IN
EARLY EVENING.]
END

TO 90R
CT PR [THE FIRST
QUARTER MOON RISES
AT NOON]
END

TO 90S
PR [AND SETS AROUND
MIDNIGHT.]
```



MATH

HEADS OR TAILS

Curriculum Skill: *Collecting and interpreting probability data*
Computer Skills: *Development of a spreadsheet to help interpret probability experiment results*

What can you do with three cents? Ask your class and the answer will most likely be "not much." Surprise your students and show them how valuable three pennies are to an experiment in probablity.

Materials Needed: You will need three pennies, a spreadsheet program and DOS software to run a program written in BASIC, and a stop watch.

Preparation: Prepare two spreadsheet files, one for the predictions and one for the actual results. Include the following columns: HHH, TTT, HTT, HHT, and TOTAL (the TOTAL is the sum of each of these columns). Save this spreadsheet and call it PREDICTIONS. Copy the PREDICTIONS spreadsheet and change its head to ACTUAL RESULTS and save again.

Next, type and save the BASIC program at right that simulates a coin toss. You may want to have a student do this.

Discussion: Ask your students to flip three coins. Discuss the possible ways that they can land — three heads, three tails, one head and two tails, or two heads and one tail. Toss the coins several times and record the results.

When this is complete, ask them to predict what will happen if the coins are tossed 100 times. Record their predictions. Using individual and group predictions, demonstrate how a spreadsheet can help them total both sets of predictions.

Activity: Have students time each other tossing the coins 100 times. Remind them to record their times. Next, tell students to use the Coin Toss BASIC program. Have them time the computer as it "tosses" the coin 100 times. How does the computer's time compare with each student's time?

Next, have students compare their spreadsheet prediction totals with the results from the computer. Are their results similar?

Activity: Create another spreadsheet that will compare individual predictions, actual results, and computer simulation results with each other.

Dorothy J. Cordes
Fifth Grade Teacher
Girard Elementary School
Girard, IL 62640

COIN TOSS

```
10 PRINT "IN THIS COMPUTER
   SIMULATION GAME THE COMPUTER
   WILL TOSS THREE COINS AT THE
   SAME TIME"
15 PRINT "THE RESULTS WILL BE
   PRINTED ON THE SCREEN."
20 P(O) = 0: P(1) = 0: P(2) = 0: P(3) = 0
30 INPUT "HOW MANY TOSSES";N
40 PRINT
90 FOR K = 1 TO N
100 A = RND (1) : B = RND (1) : C = RND
    (1)
110 A = INT (2 * A): B = INT (2 * B): C
    = INT (2*C)
120 NH = A + B + C
130 P(NH) = P(NH) + 1
140 NEXT K
150 FOR K = 0 TO 3
160 PRINT K; " HEADS: ";P (K)
165 PRINT
170 NEXT K
180 GOTO 20
```

CREATIVE COMPUTING STUDIO

Task Card Series for Unlocking Creative Thinking Skills

BY THOMAS E. BOUDROT

Create an Ending

I had one of my most surprising school experiences recently. It had to do with an assumption I shared with many other teachers: Kids do not enjoy writing.

I was involved in a project designing learning center activities for third grade classrooms. When the time came to field test the centers, I allowed students to select their favorite one. That's where the surprise came in. An uncontrollable mass of bodies surged toward the writing center; it was like a game of musical chairs. What was wrong?

WRITING IS THINKING

These students had been involved in a writing program since kindergarten. Their verbal perceptions about the writing process explained their enthusiasm: "It's time to be right all the time. I can tell kids my ideas." My favorite? "It's time when I can just think!"

Writing can be as enjoyable as talking. To this class, writing was more than essays and book reports. Writing was thinking and communicating thoughts for others to appreciate.

These kids taught me three key ideas about writing instruction. First, it must begin early. Creative scribbles and inventive spelling are the cornerstones to writing. Second, writing must be relevant. Communication of real ideas at an appropriate time is important to kids. Finally, if kids are meant to view writing as a personal experience it should not be subjected to the scrutiny of the red pen.

I will assert that there is an important time and place for proper spelling, grammar, handwriting, and other technical mechanics of writing. This is after all ideas are exhausted and the creative well is temporarily dry. As many popular writing methods for kids suggest, we shouldn't build the roof (mechanics) until the walls (ideas) are in place.

Keep these points in mind as you give students the opportunity to expand their creative writing powers:

- Make activities meaningful;
- Build in success to each writing activity;
- Allow exploration of ideas;
- Help kids see writing as ongoing and developmental;
- Expect kids to have fun.

MATERIALS NEEDED

You'll need at least one computer and a printer, a copy of *Print Shop* (Broderbund), *SuperPrint* (Scholastic), or any other print program that creates greeting cards, and the four Task Cards on pages 45 and 46.

PREPARATION

1. Study your classroom printing software. It should include a variety of fonts, borders, and graphics.

2. Cut out and laminate the Task Cards on pages 45 and 46.

3. Create samples to go along with Task Cards 1, 2, and 3 using the ideas from each card.

4. Teach your students how to create a card using the printing software. Be sure they know how to select borders, place graphics, select fonts, and input text. Make sure they understand that smaller fonts allow more words on a page.

5. If you have additional graphic disks, use them. If not — don't worry. Each activity will work with the standard disks supplied with the original printing program.

PRE-TASK CARD ACTIVITIES

• Ask the class, "When you begin to write a story, what do you do?" Have students suggest their favorite story-starting methods. Tell students that *brainstorming* is one of the best ways to collect and organize ideas. Conduct a short brainstorming activity to show students how it's done:

- have the class think of words associated with "fairy tales";

- write down the words on the chalkboard or overhead projector;

- ask students to organize the list of words into categories like story titles (Cinderella, Rapunzel, etc.) and typical characters (bad wolves, handsome princes, witches) for example.

Point out that the categories are main ideas and listed words are details. Work with the class to outline or sketch a simple story about fairy tales using the main ideas and details.

• Read this short story starter to the class: "It was dark. So dark that I couldn't see my hands or feet. But, close behind I could hear *it* . . . and it could see me! Suddenly . . ." Ask the class, "What makes a good story starter?" Elements of the unknown and surprise are just two of the many ideas they'll come up with. Have students write their own story starters to share with the class.

•Review Task Card 1 with the class. If you've made a sample, distribute it. Read aloud the directions from the task card and then read Mona's "freaky fairy tale." Have students suggest possible endings. Suggest other fairy tale themes for students to create new cards.

POST-TASK CARD ACTIVITIES

• Grim Tales - The Brothers Grimm certainly were! Many fairy tales are violent. Ask students to find a favorite fairy tale in the library. Then, have them suggest a creative, nonviolent solution to the tale's ferocity. Is the story still exciting? Why or why not?

• Working Backwards - Stories aren't too difficult to finish when you are given the beginning. But, how easy is it to make one when you're only given the ending? Check with your school's librarian to select a new, primary level book that students would be unlikely to know. Read the last several pages and have them suggest how the story begins. Who comes the closest to the real story? How easy is it to build a story . . . backwards?

Tom Boudrot is an independent educational consultant.

TASK 1

CREATIVE ENDINGS

FREAKY FAIRY TALES

CREATIVE COMPUTING STUDIO

Monartista's on a new kick: fairy tales. But alas, she has a way of making them . . . er . . . different! By the time Mona (that's her nickname) finished telling the story of *Cinderella* to her students, poor Cinderella was turned into a frog! "Oh well," Mona says, "I like it better my way!"

See if you can be as creative as Mona. Make your own funny finish to her freaky fairy tales!

1. Load your printing program into the computer. Select the greeting card option from the menu.
2. Make the outside of the card. Pick a border but do not use any graphics.
3. Type Mona's freaky fairy tale on the outside of the card:
   Little Red Riding Hood was walking through the streets of Dallas when she tripped and fell down a long stairway. Then ...
4. Select a border for the inside of the card. Don't use any graphics or words on the inside.
5. Print your card. Now, how will you finish the fairy tale? Write a wacky ending on the inside of the card.
6. Do you prefer Des Moines to Dallas? Maybe Red Riding Hood isn't your favorite? Make up a new fairy tale of your own on a new card!

TASK 1

CREATIVE ENDINGS

GOOD, BETTER, BEST

CREATIVE COMPUTING STUDIO

Mona can never make up her mind about things she likes. So, she lists them in order: *good, better, best.* She says *Cinderella* is pretty good but *Rumplestiltskin* is even better. But, *The Three Billy Goats Gruff* is the best!

1. Think of some things you really like. Write three things and put them in order so the one you like the best is last in the list (just like Mona did).
2. Load your printing program into the computer. Select the greeting card option from the menu.
3. Make the outside of the card. Pick a border and a graphic. Then, add a sentence using the first two words in your list. Make it look like this:
   _____ is really GOOD but _____ is even BETTER. (Be sure to type your words in the blanks.)
4. Pick a border and a graphic to make the inside of your card. Use the last word in your list by typing this sentence:
   But, _____ is the BEST because . . ."
6. Print your card and give it to a friend. Have your friend finish the card by coloring it and writing why he or she thinks the word inside is the best. Do you agree?

CREATIVE ENDINGS

TASK 3

HORRIBLY HAPPY ENDINGS

CREATIVE COMPUTING STUDIO

Have you ever expected a story to end one way—and something unusual happens? When Monartista tells her weird fairy tales she loves to finish her stories with "horribly happy endings!" No matter how horrible things get, her stories always seem to end happily.

Can you give her latest tale a horribly happy ending? Try it—Mona will be *horribly happy* you did!

1. Load your printing program into the computer. Select the greeting card option from the menu.
2. Make the outside of your card. Pick a border but don't use a graphic. Then, type Mona's tale:
   Unfortunately Rapunzel's hair fell out before the charming Prince found her. He couldn't climb up her golden hair.
3. Pick a border (but no graphic) to make the inside of your card. Then, type the word: *Fortunately . . .*
   Be sure to leave room inside the card to write things later.
4. Print your card. Now, can you think of a happy ending to Mona's horrible tale? Write it on the inside.
6. Illustrate your card using crayons or coloring pencils.

CREATIVE ENDINGS

TASK 4

TAG ALONG TALES

CREATIVE COMPUTING STUDIO

Monartista has so many story ideas she never has time to finish them all. But that's no problem. Her students love to pitch in to get things completed.

Now it's your turn to be like Mona. You'll start a story . . . but you'll never finish it.

1. Think of a story starter that uses a familiar fairy tale character. Try to keep it short—one sentence is fine.
2. Load your printing program into the computer. Select the greeting card option from the menu.
3. Make the outside of your card. Pick a border but don't use a graphic. Then, type your one-sentence story starter on the outside. Leave the inside blank.
4. If the program prints credits (a short sentence on the back of the card), put your name in the credit space.
5. Print your card. Then, ask a classmate to add one (and only one!) sentence to your story starter and then pass it to another person.
6. How many people add a sentence to your story starter before it gets a fitting finish? Did it turn out the way you expected?

BY EILEEN BARNETT AND EVELYN J. WOLDMAN

Problem Solving: Improving Memory

Throughout the school curriculum, one of the weakest links in teaching and learning tends to be in the area of problem solving and critical thinking. Educators are only too aware of the recent findings of the National Council of Teachers of Mathematics (NCTM) that, given enough drill and practice, students can usually acquire the rote fact skills. However, there continues to be a gap between students' fact-knowledge and their ability to apply those facts to new problem solving situations. More specifically, one skill which needs to be reinforced at all levels is divergent thinking and divergent problem solving—that is, children need to feel comfortable with the idea that there are many paths to a solution depending on their learning style.

At the early childhood level, problem solving should be an integral part of the total curriculum. In this article we will focus on one aspect of problem solving—memory. Memory skills encompass more than the ability to rote memorize. They include the ability to recognize and recall patterns, for instance, or to follow and recreate a sequence. Memory affects the ability to perform in all areas of the curriculum. It is an interdisciplinary skill. Therefore, a teacher need not feel compelled to devote specific lessons to improving memory. Rather, the concepts involved lend themselves well to short pockets of time throughout the school day

IDEA BOOSTERS FOR IMPROVING MEMORY

1. Be a Detective
   A. Put a series of objects on the table.
   B. Have a child cover their eyes while you remove one object.
   C. What's missing?

2. Classic Concentration
   A. Put a set of cards(pictures or shapes) facedown on the table. Each card must have a twin.
   B. Have the child find the matched sets by flipping over two cards at each turn.

3. Simon Says
   A. Pick a child to be "Simon."
   B. Have "Simon" give the children one instruction.
   C. Only when "Simon" starts with "Simon Says" should the children follow the instruction.

4. Super Simon Says
   A. Pick a child to be "Super Simon."
   B. Follow instructions "B" and "C" from "Simon Says." In this version, however, all of the instructions will be two-step, then three-step, and so on.
   Example: Simon Says put your hands on your head.
   Simon Says put your hands on your head and then touch your toes.
   Simon Says put your hands on your head, touch your toes, and shout "Hurrah". See how many instructions children can remember.

5. Remember the Missing Words
   A. Read familiar literature to the children (nursery rhymes, Dr. Seuss, Shel Silverstein).
   B. On a follow-up reading, leave out key words and allow the children to fill them in, such as: "I do not like green eggs and ham, I do not like them ___ _ __!"

6. Make That Shape
   A. Using attribute blocks, produce a shape with the children.
   B. Place the shape out of sight and have children try to reproduce the shape.
   C. Make the shapes increasingly more difficult.

7. What's My Pattern?
   A. Using cards with different shapes on them (heart, square, triangle, etc.) produce a pattern in front of the children.
   B. Have the children reproduce the pattern with their own set of cards.
   C. Cover the pattern and have the children attempt to reproduce the pattern again, making it increasingly more complex.

8. Mirror Image
   A. Have two children sit face to face.
   B. Have child one make a single facial expression. Have child two try to recreate it.
   C. Child one continues to make facial expressions, each time adding one to the pattern.

9. Name Game
   A. Have the children sit in a circle. The first child sings his name in rhythm.
   B. The next child must sing their name, add on the previous child's name, and so on.
   C. The rhythm can be easily produced by having all the children hit their thighs twice and then clap their hands twice.

10. Let's Be Robots
    A. Call one child to the front of the group.
    B. Give him or her a simple series of directions. Example: Walk three steps forward, turn around, pick up the pencil, and put it on the table.
    C. If that child carries out the directions correctly, he or she may choose another child to whom they may give directions.

Software Companies Mentioned in this Issue:

Apple Computer
Cupertino, Calif.; (408) 252-2775

Beagle Brothers
San Diego, Calif.; (800) 345-1750

Broderbund Software
San Rafael, Calif.; (800) 521-6263

Checkmate Technology
Tempe, Ariz.; (602) 966-5802

Claris Corporation
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Hartley Courseware
Dimondale, Mich.; (800) 247-1380,
(517) 646-6458 in Mich.

LCSI
Highgate Springs, Vt.;
(800) 321-5646

The Learning Company
Fremont, Calif.; (800) 852-2255

MECC
St. Paul, Minn.; (800) 228-3504,
(800) 782-0032 in Minn.,
(800) 263-9677 in Canada

Microsoft Corporation
Redmond, Wash.;
(800) 426-9400

Roger Wagner Publishing
El Cajon, Calif.; (619) 442-0524

Scholastic Inc.
Jefferson City, Mo.; (800) 541-5513

Spinnaker Software
Cambridge, Mass.; (800) 826-0706

Springboard Software
Cambridge, Mass. ; (800) 826-0706

Sunburst Communications
Pleasantville, N.Y.; (800) 628-8897

Techware Corporation
Altamonte Springs, Fla.;
(407) 695-9000

Tom Snyder Productions
Cambridge, Mass.;
(800) 342-0236,

First Steps continued

and beyond. To this end, on the previous page, we offer a series of "idea boosters" which cover some of the learning approaches to improving memory. The computer is an ideal vehicle for augmenting memory skills.

RELATED SOFTWARE

The following software programs promote a variety of memory skills you can use as a follow-up to any of these activities. For location and phone numbers of the companies listed below, please see "Software Companies Mentioned in this Issue" column at left.

Parquetry and Puzzles
Memory Match
from Hartley Courseware

Primary LogoWriter
from LCSI

Reader Rabbit
Moptown Parade
Gertrude's Secrets
from The Learning Company

Patterns
from MECC

Early Games
from Springboard Software

Facemaker Gold
Delta Draw
from Spinnaker Software

Muppetville
1-2-3 Sequence Me
Teddy and Iggy
Simon Says
Memory Building Blocks
Bounce
Winker's World of Patterns
What's In A Frame?
from Sunburst Communications

Evelyn J. Woldman is software specialist for the Chapter I Computer Center in Framingham, MA. **Eileen Barnett** is a former nursery school director and currently Software Coordinator for the Lesley College Computer Instructional Center in Cambridge, MA.

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PRODUCT INFORMATION

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1. Do you (or your school/district) plan to purchase Word Processing Upgrades in the coming year?
☐ Yes
☐ No

2. Please indicate the estimated budget you will allocate for this purchase:
a. ☐ Less than $5,000
b. ☐ $5,000 to $20,000
c. ☐ Greater than $20,000

3. On which computer system will you or your school/district/ college use these products:
a. ☐ IBM/MS-DOS Compatible
b. ☐ Apple II Series
c. ☐ Macintosh

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y classrooms.
concepts and

SUPER SOLVERS MIDNIGHT RESCUE!

Grade Level: *3-7; also, special education through grade12*
Subject Area: *Reading, Thinking Skills*
Computers: *MS-DOS*
Memory Requirements: *512K IBM; 640K Tandy*

I only had one problem with The Learning Company's new *Super Solvers Midnight Rescue!* . . . getting my students to quit playing it and go on to their next class.

Midnight Rescue is a comprehensive reading/thinking skills program, designed in the style of an arcade-video game. I know what you're thinking:

PRODUCT INFORMATION

TEACHING and computers

May/June 1990
(Expires October 1)

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Use this card for free product information.

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3. On which computer system will you or your school/district/ college use these products:
a. ☐ IBM/MS-DOS Compatible
b. ☐ Apple II Series
c. ☐ Macintosh

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SOFTWARE SHOWCASE

Software Recommended for Teachers by Teachers

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SUPER SOLVERS MIDNIGHT RESCUE!

DINOSAUR BLEND

PROJECT CLASSIFY: MAMMALS, PLANTS

PC GLOBE USA

PLAYROOM

WHERE IN TIME IS CARMEN SANDIEGO?

Added Attractions

By Therese Mageau

FAMILY TREES

Creating family trees is a time-held tradition in elementary classrooms. The activity brings students in touch with a variety of concepts and skills, among them, a deeper understanding of history, interviewing and research skills, simple graphing skills, and an increased awareness of one's self and one's place in "the scheme of things."

Family trees can be as complicated or as simple as students' ability levels and interests allows. For students who are a little older (say, 5th or 6th grade and up), check out *Family Tree Maker*, a new program from Banner Blue Software, that allows users to create sophisticated family trees with amazingly little effort.

The program offers three tree-making options: an ancestor tree, which shows a person's direct ancestors moving backwards in time; a photo tree, which is an ancestor tree that leaves room for photos for each relative; and a descendant tree, which shows a primary individual (or progenitor) and all of his or her descendants moving forward in time.

Creating a tree is remarkably easy. Students input information on "index cards" on-screen, including birth and death dates, marriages, and children. By simply pressing one key command, you can create trees for each person entered, so that family trees can be extended as far as you wish. A nice program feature allows students to add personal comments to each person in their tree (for example: "loves dogs, baseball, and sleeping late") which, if selected, will show up in the final print out. Printing involves a few simple-to-follow steps and the output, depending on your printer, is graphically pleasing (students can choose from a variety of borders to frame their trees).

The reference manual includes a thoughtful chapter on research techniques, including tips on notetaking, possible research sources, and a state-by-state list of genealogical information sources.

Students will love creating and printing out family trees to bring home. It's the kind of project that can truly involve parents in their children's learning. *Family Tree Maker* is available for 384K MS-DOS computers (both 5.25-inch and 3.5-inch formats are included in the package) for $59.95. Banner Blue Software, 39500 Stevenson Pl., Suite 204, Fremont, Calif. 94539; (415) 794-6850.

SUPER SOLVERS MIDNIGHT RESCUE!

Grade Level: *3-7; also, special education through grade12*
Subject Area: *Reading, Thinking Skills*
Computers: *MS-DOS*
Memory Requirements: *512K IBM; 640K Tandy*

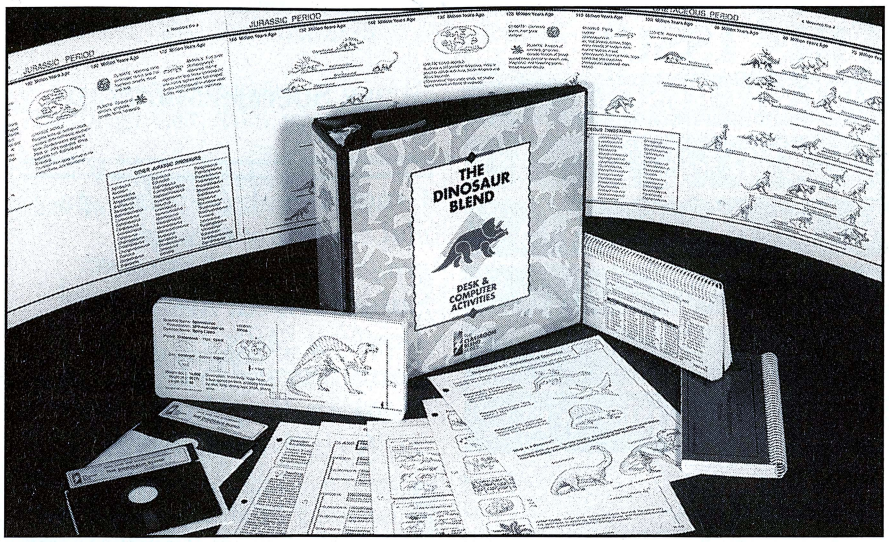
I only had one problem with The Learning Company's new *Super Solvers Midnight Rescue!* . . . getting my students to quit playing it and go on to their next class.

Midnight Rescue is a comprehensive reading/thinking skills program, designed in the style of an arcade-video game. I know what you're thinking: arcade games have no educational substance. At least, that's what I thought at first and I felt guilty letting my students play the game because they were having so much fun. But after playing it myself, I realized its tremendous educational value.

The program's scenario is inviting to children of all ages: Morty, the Master of Mischief, and his robots have invaded Shady Glen School and are painting the building with disappearing paint. Players have until midnight to find the Master of Mischief and save the school, but there's one problem: Morty has disguised himself as one of his robots. By exploring the school, students come upon entertaining stories they must read for clues and facts to out-smart Morty and his gang.

The program encourages reading and thinking skills through its 200 entertaining stories, newsletters, and other educational reading materials that students must comprehend in order to advance. The vibrant color and excellent use of animated graphics add to the overall appeal of the program. The option of hard disk installation is a plus to IBM PS/2 users.

Midnight Rescue is easy to learn. For those (like me) who want to jump



Dinosaur Blend: Everything you ever wanted to know about dinosaurs.

into the program, on-screen instructions enable you to do just that. The User's Guide and a Ready Reference Card also provide easy access. Once students learn the program, almost no assistance from the teacher is needed.

I can see *Midnight Rescue* working in a variety of settings. It worked effectively with my deaf/hearing impaired students who often have a harder time with reading, but I can see gifted students excelling with this program because its ever-changing format allows a skilled player more challenge as the game advances. And I can see it as well in a "typical" classroom, set up for individual or small-group play. In a one-computer classroom, teachers can take the reading excerpts from the program and expand on them for a full-class discussion. And since the reading matter in the games covers a wide range of subjects areas, you don't have to limit use of this program to your reading class.

Super Solvers Midnight Rescue! is truly a motivating reading program. Even the most obstinate reader will admit that reading can be fun if Morty and his robots are on hand to keep things lively!

The Learning Company, 6493 Kaiser Dr., Fremont, Calif. 94555; (800) 852-2255; $49.95; copyable disk; 30-day preview.

Linda Davis *is computer coordinator and teacher at the Missouri School of the Deaf in Fulton, Mo.*

(Circle 105 on Product Info. Card.)

DINOSAUR BLEND

Grade Level: *2-8*
Subject Area: *Science, Computer Literacy*
Computers: *Apple II family*
Memory Requirements: *64K*
Additional Hardware Requirements: *Printer*
Additional Software Requirements: *AppleWorks , FrEd Writer/FrEd Base*

Dinosaur Blend is a comprehensive integrated teaching package that delivers something for anyone who ever wanted to know anything about dinosaurs. The package contains files of data bases, spreadsheets, and story starters about dinosaurs that can be used with *AppleWorks* and *FrEd Writer/ FrEd Base*. (Files for ProDos and Dos 3.3 transfer are also included.) A huge binder contains dozens of activities, blackline masters, and teaching suggestions for doing extensive research work about dinosaurs. A four-foot timeline, 40 fact-filled data cards, and student software reference manuals are included in the pack, too. *Dinosaur Blend* seeks to help students develop thinking and research skills using a variety of computer and non-computer activities.

The program developers created activities to include online and offline experiences for individuals, small, and large groups. They have carefully produced activities that can be completed by younger students as well as those in fourth or eighth grades. All activities indicate up front whether a computer is needed, time required, additional materials needed, prerequisite, and follow-up activities.

The data bases contain a wealth of information that students can access to find information for given activities or for questions of their own. Teachers will have to instruct students carefully on how to use the data bases (and spreadsheets) in order for them to be really useful. The Student Reference Manuals will only be useful to older students.

Dinosaur Blend includes arts and crafts ideas, crossword puzzles, word searches, research activities, graphing challenges (for use with paper and pencil and software), word processing exercises, and many more types of experiences for students. Because of the comprehensive nature of the materials, teachers will have to spend some time organizing lessons that meet the needs of their particular students. If a teacher has been looking for a way to motivate students to use a computer for research and thinking skills, then this package provides a compelling vehicle.

The Math Learning Center, Portland State University, Continuing Education Publications, P.O. Box 1394, Portland, Ore. 97207; (800) 547-8887, ext. 4891; in Oregon (800) 452-4909, ext. 4891; $175, includes building copy release rights; district licenses available.

Beth Lazerick, *secular studies principal, Hebrew Day Institute, Rockville, Md.*

(Cicle 106 on Product Info. Card.)

(continued)

PROJECT CLASSIFY: MAMMALS
PROJECT CLASSIFY: PLANTS

Grade Level: *4-8*
Subject Area: *Zoology, Biology*
Computers: *Apple II family*
Memory Requirements: *128K*
Additional Hardware: *Color monitor recommended; joystick, mouse optional*

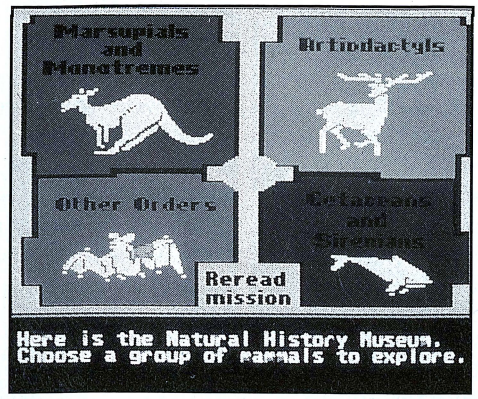
With National Geographic's *Project Classify: Mammals* and *Project Classify: Plants,* your students will travel on missions around the world to locate and identify elusive animals and plants. To complete their missions and claim their rewards, they have to read carefully, sharpen their observation skills, and learn classification concepts.

Each package contains two disks, a teacher's guide with a unit on plant or animal classification, a filmstrip with accompanying audiocassette, 15 copies of an illustrated student handbook, and a number of activity sheets. The materials are designed to complement each other, but each component of the kit can also be used separately as enrichment materials for studies related to plants and animals.

A great deal of scientific terminology and many new concepts are introduced in these programs. I was impressed with how this potentially confusing and even overwhelming topic was presented in a clear, interesting, and logical way.

The classification unit that comes with the kit is excellent. The teaching ideas are sound and I was glad that there were many suggestions for activities to keep the class sufficiently occupied while small groups of students use the computer. I was also impressed with the way the computer is logically integrated into the total unit plan.

Basic classification concepts are introduced with the filmstrip, tape, and accompanying worksheets. The information gets quite technical but also quite fascinating as children learn to divide plants and animals into increasingly smaller groups labeled kingdom, phylum, class, order, family, genus, and species.



Project Classify turns students into international botanists and zoologists

As might be expected from National Geographic, the photographs are beautiful. The recorded text is clear and has good sound effects. Thought-provoking follow-up ideas and activity sheets help reinforce the concepts presented in the film.

After children understand the basic concepts, they use the accompanying computer program, *The Field Zoologist* or *The Botanist's Apprentice*, to practice their skills and to learn more about plant or animal traits. A great deal of new vocabulary and many new concepts are introduced.

Both programs work the same way. They are simulations in which children visit the office of a zoologist or a botanist and are given a mission to locate a certain animal or plant. For example, they may have to identify the type of bat inhabiting the local minister's belfry or find the plant that was used to make an early kind of paper (papyrus). Once they receive their orders, they use clues to find a picture of the animal or plant they think they are looking for. They then try to identify it by using the key. They must observe the plant or animal carefully and answer questions which require them to make a series of choices about its traits.

MULTIPLE CHOICES

For example, some of the choices in the key leading to the identification of a giraffe include the following: does the animal have antlers or horns; are the horns branched or not branched; is its neck very long or not very long? If students are not sure what these traits look like they can see examples of pictures illustrating the traits.

After users answer the questions in the key they are shown a picture of the plant or animal that has all the traits they chose. They compare it to the original picture and if the two match they receive additional information about the animal or plant. They use this information to decide if they really have found the animal or plant that completes their mission.

If students think they have found the correct one, they are shown a map of the world and, using clues provided, find the country in which the plant or animal can be found. They then bring a sample of the plant or a videotape of the animal to the botany or zoology main office to see if the mission was completed correctly. If it was, they collect their reward. In the process of playing the game children must read for comprehension, gather data, and observe carefully.

As children play the game they can use the accompanying Botanist's Handbook or Zoologist's Guide to get additional information to make their choices. These eight-page booklets are rather limited but do have clear illustrations and concise definitions.

Since there are 72 missions on the two disks, 24 each at three different difficulty levels, the game can be played many times over. Each game lasts from five to 10 minutes. At the easiest level children are given more clues and fewer choices. I found that some of the higher level missions took many tries and a great deal of patience to complete.

Error feedback is the weakest part of

(CONTINUED)

this program. If the pictures don't match, users are told they made a mistake and can try to answer the questions again. I don't think this is enough assistance. It would be much more helpful if users could have their errors both identified and explained.

Another thing I found annoying was the inability to easily exit a game and to return to the main menu. There were times when I knew I was on the wrong track and would have liked to just start over again. This wasn't always possible without rebooting the disk.

With these exceptions, the software has many good features. The screen display is crisp and clean with easily readable text and excellent graphics. The menu-driven screens and clear instructions make the program easy to use. Sound is optional. Missions can be chosen randomly within levels or specifically by number. A record-keeping feature holds progress reports for up to 40 students.

I feel these programs are definitely worthwhile, informative, and fun to play. They encourage children to read and to observe carefully and to increase their knowledge base. The kits provide teachers with a well-designed plan for teaching classification skills and with a variety of helpful materials to accomplish this goal.

National Geographic Society, Educational Services, Washington, D.C. 20036; (800) 368-2728; $139.95 (additional components may be ordered separately); preview period available.

Miriam Furst *is an educational consultant, computer specialist for the Tucson, Ariz., Unified School District.*

(Circle 107 on Product Info. Card.)

PLAYROOM

Grade Level: *Preschool - 1*
Subject Area: *Reading, counting, time, art, keyboarding*
Computers: *Macintosh, MS-DOS*
Memory Requirements: *1 MB Macintosh; 256K MS-DOS*
Additional Hardware: *Mouse, joystick, and printer optional*

Wake up, Pepper Mouse! It's time to show all the children how to get to Broderbund's *Playroom*. There are so many things to do and make and play with. They will learn reading, math, telling time, logical thinking and so many more skills, and they won't even know it! Hurry up! Turn on that computer and get started.

Playroom is a great place to take a young child for many rewarding hours of fun and learning. There are six games to be played as well as many surprises to be found in the main playroom. A mouse, keyboard, or a joystick will take an inquisitive child on a wonderful adventure.

Many things are waiting to be explored in the playroom. Curtains open and close. Fish, swimming in the bowl, will do a somersault. The six games included are coded by pictures. When a picture is chosen, the game will begin.

The "Clock" game displays analog and digital time when the cursor is placed on a chosen number. Pepper Mouse appears to perform an activity which will give a clue as to what time of the day it is. The sun or night sky will indicate whether it is day or night..

The "Computer" game provides a good introductory keyboarding activity, as well as a simple spelling game and practice of upper- and lower-case letters of the alphabet. The game becomes more difficult as the levels increase.

To bring out the artist in any child, try the "Mixed-Up Toy" game. What fun to create a real animal or an imaginary, horrible-looking creature. This game will print out the monster which children can color in.

"Mousehole" is a math readiness game in which the difficulty of the gameboard depends on how high the child can count. There are three levels. One child can play against the computer or two children can play against each other. There are tricks to getting ahead and winning the game. Children sharpen their logical thinking skills as they make decisions and predictions about where their marker should land. Pepper Mouse does a fancy two-step for the winner!

Everybody likes to create pictures and print them out, so it wasn't surprising that a few adult observers were even captured by the "ABC Book." Each alphabet key corresponds to a representative picture, and a simple press of the key and use of the arrow keys (or mouse or joystick) will place the picture anywhere on the page as many times as wished. The printed product is picture-book quality and ready to be colored.

Children can practice counting and associating numbers with objects using "The Spinner Toy." When Pepper Mouse is asleep, students can explore the pictures and numbers. When he is awake, your students can play a counting game with him. He is a wonderful teacher! He helps when mistakes are made and no one feels like a failure.

Playroom has great potential for the kindergarten and first grade teacher. The graphics are eye-catching, the games simple but educational, and the program is user-friendly for children. The concepts introduced and taught in *Playroom* are important for five- and six-year-olds to know, and we've all learned that children are far more motivated to interact with a charming computer game than to do flashcards or worksheets.

Broderbund Software, 17 Paul Dr., San Rafael, Calif. 94903; (800) 521-6263; $54.95 MS-DOS; $59.95 Macintosh; includes back-up; 30-day preview.

Nancy Rentschler, *Speech Language Hearing Pathologist, Hewitt Elementary School, Trussville, Ala.*

(Circle 108 on Product Info. Card.)

PC GLOBE 3.0
PC USA

Grade Level: *3-adult*
Subject Area: *Social Studies, Geography*
Computers: *MS-DOS*
Memory Requirements: *512K*
Additional Hardware: *Mouse optional, hard disk recommended*

PC Globe 3.0 and *PC USA* are comprehensive, easy-to-use computerized data bases which contain a wealth of information— including maps—about 177 foreign countries and all 50 states, Washington D.C., and Puerto Rico. Any social studies teacher will find these two software packages a

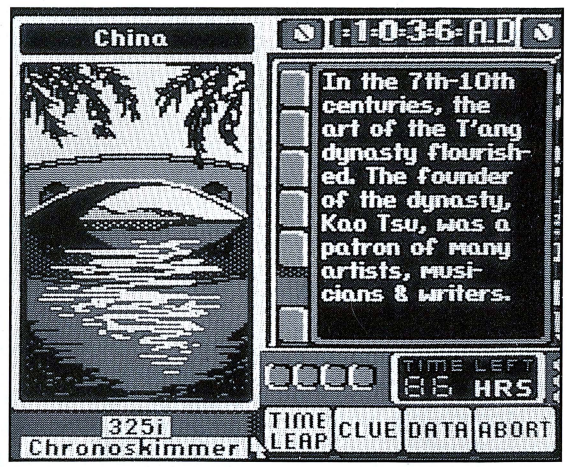
must. The programs would be ideal for a media center environment, and would provide an inexpensive alternative to buying CD-ROM disks. They are also appropriate for the one-computer classroom.

As students study countries or states and need any kind of statistical information, graphs, or maps showing information about a topic such as the literacy rate, or comparing statistics via graphs or charts, *PC Globe 3.0* and *PC USA* allow them a means to easily access and manipulate the data. With a large-screen monitor or an LCD projection panel, teachers can quickly pull up information and project it for the whole class to see at one time. This would provide a great vehicle for launching a discussion or explaining a concept, as well as showing the location of any city, state, or country, and other geographical features.

Both packages have so many special features, that space does not permit a full explanation of each. A few of these include finding distances between points and seeing this displayed on a map, automatic currency conversion (with the ability to change the conversion rates), area code and zip code locations, screen saving in PCX format, and a self-updating time zone map.

Both programs employ the use of pull-down menus which can be accessed with or without a mouse. The programs are easy to learn to use. Documentation consists of a short, but thorough manual, which is easy to understand. There is also an on-screen help available. Though the publisher lists the system requirements for these MS-DOS programs as one or two floppy drives or one floppy drive and a hard disk drive, I would greatly discourage trying to run either on anything but a hard drive system. The MS-DOS version (which I reviewed) of *PC Globe 3.0* is on five 5.25-inch disks and *PC USA* is on three 5.25-inch floppies. The amount of disk-swapping that would be necessary without a hard drive would take a lot of the fun out of using these programs.

If there is any one way the programs could be improved, it would be to make sure that the data used is the most current for each category. On-screen data listed was from 1985 for one category and 1988 for another. Other than that, both *PC Globe 3.0* and *PC USA are* programs that any school using MS-DOS or Macintosh computers should add to their software library.



Carman Sandiego turns students into time travelers.

PC Globe Inc., 4700 South McClintock Dr., Suite 150, Tempe, Ariz. 85282; (602) 730-9000; $69.95; copyable disk; demo disk available for $3.

Michael K. Russ, *computer coordinator, Evansville-Vanderbilt School Corporation, Evansville, Ind.*

(Circle 109 on Product Info. Card.)

Where In Time Is Carmen Sandiego?

Grade Level: *6-12*
Subject Area: *Social Studies, History, Geograpy*
Computers: *Apple II family, MS-DOS*
Memory Requirements: *128K Apple; 512K MS-DOS*
Additional Hardware: *Color monitor recommended*

As if the World, the USA, and Europe weren't enough, Carmen Sandiego and her gang of notorious thieves are now traveling through time stealing some of the world's most treasured objects. Your students, once again, are called upon to execute creative search strategies to find these villains and save history from their conniving clutches.

Where In Time Is Carmen Sandiego? is the fourth title in the now famous Carmen series put out by Broderbund Software. Like its older siblings (*Where In the World...the USA...Europe...*), *Where In Time...* combines solid educational pursuits with good old-fashioned fun.

Players solve crimes by assisting the Acme Detective Agency in tracking down Carmen and her cohorts. Students might travel from China during the Ming Dynasty to Mexico during the Mexican Revolution, and then back in time to when the Turks invaded India, searching for clues to solve Carmen's latest crime.

In each crime, the thief can be found hiding out in one of 48 locations in history. Players use a "Chronoskimmer 321i" to time-travel, during which they interview witnesses, search for and interpret clues, and enter facts into the Evidence Data base to narrow down the suspects among the 16 possible criminals. A player's best friend and partner in this pursuit of the right criminal is *The New American Desk Encyclopedia*, a copy of which comes with each program.

Although *Where In Time...* may sound and look like all fun and games from the outside, once players get into the game, they'll discover a wealth of educational value. The game exposes students to important historical world events right up to the 20th century. It reinforces world geography and intro-

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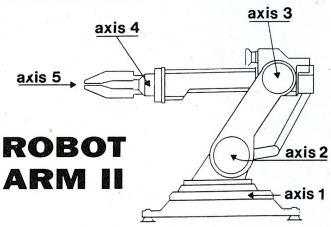

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Software showcase continued

duces cultural facts.

The reference and research skills students employ to play *Where In Time...* have the greatest ramifications for use beyond the program. By using *The New American Desk Encyclopedia*, students can be on top of the game and at the same time learn how to find facts, learn about places, use a cross reference, and take notes. Most typical reference book activities invoke loud student groans, but here is one situation where they can wear out a reference book and love every minute of it.

The age range for *Where In Time...* is listed as grades 6-12. I have found sixth graders enjoy playing, but the majority of them have some difficulties in the beginning. Teaming up experienced and inexperienced players seems to help. It also is helpful to have the class work together on one adventure—this way you can introduce program terms and commands and encourage students to brainstorm and develop search strategies.

The directions in the Detective's Manual, for the most part, are straightforward. However, on-screen directions for getting into the program could stand improvement. For the first-time user of a Carmen Sandiego program, a student would have some difficulty knowing what to do or how to get started without the Detective's Manual. And, truthfully, the directions could even be spelled out a little more clearly in the manual itself.

Overall, *Where In Time Is Carmen Sandiego?* is a great opportunity to practice and reinforce research skills and critical thinking skills while having some fun traveling through the great events and places of the world.

Broderbund Software, 17 Paul Dr., San Rafael, Calif. 94903; (800) 527-2636; $54.95; includes back-up; 30-day preview.

Beth White, *sixth grade teacher, Etna Dixmont School, Etna, Maine*

(Circle 110 on Product Info. Card.)

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Making Connections

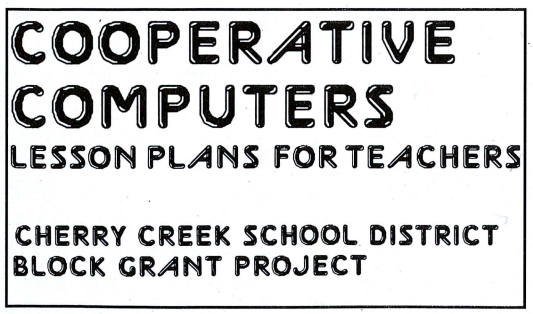
Looking for some interesting summer reading? The following books cover areas from cooperative learning to using *AppleWorks* to computer graphics. They will keep the summer lively while keeping you up to date on computer applications in education.

COMPUTERS AND COOPERATIVE LEARNING

Judy Bird and Karen Peterson, elementary school teachers from Cimmaron Elementary School in the Denver suburb of Aurora, Colorado, collaborated to write ***Cooperative Computers: Lesson Plans for Teachers***. The book draws on their experiences with cooperative learning using computers and other technologies for grades K-8.

Peterson and Bird provide lesson plans which incorporate a cooperative learning model with their daily curriculum. Lessons are provided in problem solving, science, social studies, language arts, and math.

Each lesson includes subject, grade level, lesson content, objectives, a materials list, the decisions that need to be made for the cooperative learning model, and the task to be completed.

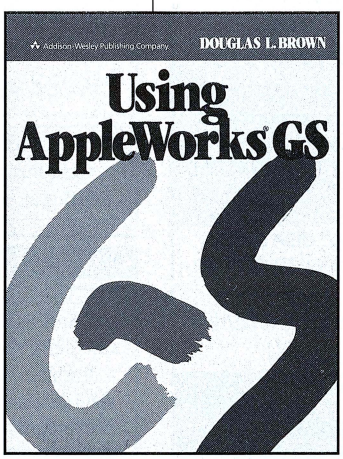


Price: $18.50. Contact: Cooperative Computers, Cimmarron Elementary, 17373 E. Lehigh Place, Aurora, Colo. 80013.

LEARNING TO USE APPLEWORKS GS

Using Appleworks GS is a well arranged and illustrated tutorial helpful for both beginner and advanced users of Claris's *AppleWorks GS* software. Douglas Brown is one of the primary authors of the book and his knowledge of the product is thorough.

After an overview of the six applications, (word processing, data-base, spreadsheet, graphics, page layout, and telecommunications), an introduction to the *AppleWorks GS* environment, and a look at common commands, Brown offers two chapters on each of the applications. The first introduces the reader to the basics of the application. Those already familiar with an application can quickly move to a second chapter which explores more advanced features. Throughout the book, italicized notes and shortcuts clarify procedures and offer time savers. A final chapter is devoted to transferring information from one *Appleworks GS* application to another.



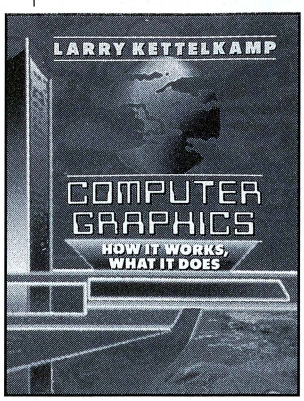
If you use *Appleworks GS* consistently, or teach others to use it, ***Using Appleworks GS*** will be a helpful tool, and would certainly be a useful item for school libraries where students and teachers have access to the Apple IIGS computer. Price: $19.95. Contact: Addison-Wesley Publishing Company, 1 Jacob Way, Reading, MA 01867; 800/447-2226 or 617/944-3700.

COMPUTER GRAPHICS: HOW IT WORKS, WHAT IT DOES

Here is an interesting book about the world of computer graphics. Written by Larry Kettelkamp, ***Computer Graphics: How It Works, What It Does*** begins with a short history of computer graphics. The balance of the book presents detailed discussions on many aspects of computer graphics and their different utilizations.

There are chapters devoted to various types of workstations, the distinction between high and low resolution graphics, color, and black and white monitors, and a brief mention of computer languages. Clear black and white drawings and photographs illustrate image control devices: keyboard, several different mouse designs, and three variations of the graphics tablet: a stylus,a pen, and a cursor. Scanners and plotters are described and explained. Hard copy versions from printer and camera complete one chapter on building computer images.

Another section of ***Computer Graphics: How It Works, What It Does***, concentrates on animation and video games. Author Kettelkamp provides a step by step explanation of how animation is accomplished, emphasizing the shift from hand-drawn images to computer generated sequences. A natural step from graphics is computer simulations and these are discussed, highlighting Chuck Yeager's flight simulation programs as prime examples.



In an "afterword," Kettelkamp looks to a not-so-distant future of increased hardware compatibility, increased speed, reduced costs, and laser holography. There is a glossary included. Price: $12.95. Contact: William Morrow and Company, 105 Madison Avenue, New York, N.Y. 10016.

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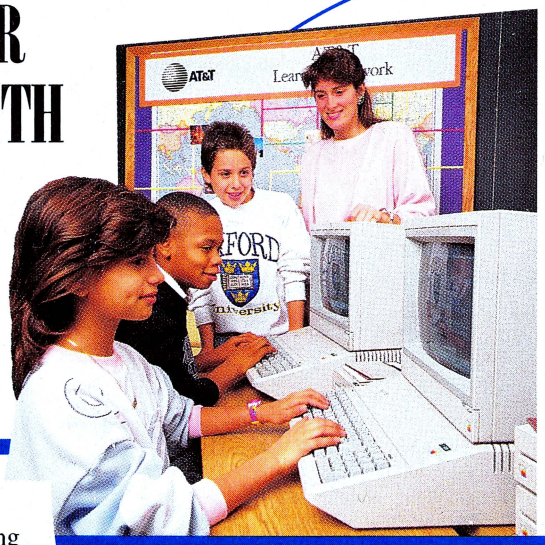

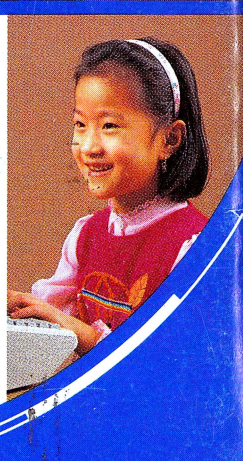

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